

COMPREHENSIVE PLAN OF NEWARK

 THE CITY PLAN COMMISSION
NEWARK, NEW JERSEY



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NEWARK, NEW JERSEY, December 31, 1915.

*To the Honorable, the Mayor and Common Council of the
City of Newark, N. J.*

GENTLEMEN:

We have the honor to present herewith the Comprehensive Plan of Newark prepared in accordance with Chapter 71 of the Laws of the State of New Jersey for 1911, subsequently amended by Chapter 72 of the Laws of the State of New Jersey for 1913. The Plan is the result of three and a half years' effort, so prepared as to form a basis for the systematic and future development of this city. The Plan is now presented for your careful consideration, revision and adoption.

The Plan by no means completes the work of the City Plan Commission. With the large amount of data now at hand, supplemented with additional information from time to time, this Commission can assist in future revision of the Plan, and, if given certain authority to assist in its execution, can cover a large field of usefulness, as suggested in the text.

With the approach of Newark's 250th Anniversary we hope this Plan will prove of value and interest to all.

Respectfully submitted,

AUSTEN H. MCGREGOR, *President.*

FREDERICK J. KEER, *Vice-President.*

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Secretary.

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INTRODUCTION

For three and a half years the City Plan Commission has been collecting the material and preparing the suggestions herewith presented for a Comprehensive Plan of Newark. A careful study has been made of things pertinent to a city plan and expert advice has been secured, and on that study and that advice our recommendations have been based.

The subjects herein discussed should have the attention of all citizens and particularly of those on whom rests the responsibility for the wise and helpful development of our city, for the realization, that is, of a comprehensive city plan—the Mayor, the Common Council, the Board of Street and Water Commissioners, and others.

We considered the plan presented as tentative, since it represents the convictions of a group of citizens without executive power. It is published in the hope that it will call forth criticisms and suggestions; that it will receive in due course all proper revision; that it will in time be officially approved, and then will be adopted by the community through a referendum.

Those not familiar with methods of city development as followed by more enlightened communities to-day may fear that to adopt and then follow a broad scheme like that presented in this volume involves expenditures too great to be borne. On the contrary, a scheme of growth is adopted by the wise and progressive city precisely for the purpose of reducing, and ultimately entirely eliminating, those mistakes of arrangement and of public and private investment and construction which are to-day bringing every large city face to face with huge expenditures for readjustment.

Under the guidance of a Comprehensive Plan each enlargement of the city, the layout of each new subdivision, the selection of the site and the choice of the archi-

tectural character of each new public building, the decision on paving and on width and style of walks, the granting of rapid transit and other franchises—all are determined in accordance with the demands of a scheme of development of the broadest and most forward-looking character. Under a Plan every new step in the city's growth is as wisely taken as the limitations of human wisdom permit, and always toward comfort, utility and efficiency; while, at the same time, the harmony, dignity and beauty which follow wise adjustment of structure to purpose inevitably come forth.

The ideal city for business, for manufacturing and for homes can not be otherwise than well arranged, well built and clean—and such a city has already all the chief essentials of beauty.

The suggestions in this Comprehensive Plan are so arranged as to provide a logical sequence of development for fifty years. We hope it will be adopted to such an extent as to prevent, as we have said, the city and its citizens from making hereafter any of those mistakes that are so expensive to rectify.

We are sure that if it is fully and freely discussed, is modified as further investigations and later forecasts suggest, and finally is adopted as the fundamental law of the city's growth, it will produce an effect so beneficial as to make the next generation feel that we, of this day, at least felt our obligations to the future and tried our best to live up to them.

The most enthusiastic supporter of our present methods must admit that mistakes and omissions have been made in laying out our city which it will be most expensive to correct. How to meet the expense of operating a large and active city and, at the same time, of so far rectifying the mistakes of the past that they may not continue to pile up still further burdens of expense, is the

problem which confronts Newark. Can this be done without laying out a Comprehensive Plan and living up to it as far as possible?

In preparing for future activities in any large community there are always those who consider as visionary and speculative any projects for improvement that look beyond the morrow for returns. The evil of such short-sightedness has often been demonstrated. The present plan, however, has been prepared with this hostility to the far-reaching and forward-looking enterprise always in mind. If errors of judgment are found in it they will, we are sure, prove in the long run to lie on the side of conservatism.

The need for relief of undesirable conditions naturally pushes into the background the equally important if not so pressing need of attractive and agreeable surroundings for the comfort and happiness of the citizens. This also has been kept in mind. We have insisted on the importance of making our city more comely, and even giving it a certain distinction by virtue of the number and character of its public enterprises.

Over forty thousand special reports, pamphlets and articles on the need for and the general character of this Comprehensive Plan have been distributed during our study of the subject. Many talks and lectures have been given before clubs and societies for this same purpose of educating and directing public opinion.

The press of the city has been at all times keenly interested in the work we have done, and has carried on such a campaign of education as would have been quite impossible to a commission of modest income like ours.

No examples are here cited of the methods of city planning in other cities. Much information in this line can be found in our previous publications.

Suggestions made in earlier reports are here repeated and many others have been added, some original and some adopted. For none of its suggestions does this Commission take to itself any special credit. It has drawn upon all available sources for what seemed most applicable to our special problem.

Newark's history has had its proper influence in our considerations. Out of the past grew the Newark of to-day. A study of the influences which made it what it is, helps to make clearer what forces must be called on to make it better. Founded in 1666, as the last of the Puritan settlements, the Town of Newark, named after Newark-on-Trent, enjoyed a quiet existence for a century and a half. The population in 1800 was about 1,200, or only double the number of original settlers. The townspeople were long content to lead calm, uneventful lives and were not eager to increase the size of their town. In the early part of the nineteenth century came a change. The leather business and other industries flourished, soon insurance companies were founded, and in 1838, when the town was first incorporated, the population had increased to 30,000. From this time on, the growth of Newark in business, in population and in area has been very notable. Briefly the figures are:

	Approximate Area.	Approximate Occupied Area.
1830.....	15.5 sq. mi.	1.2 sq. mi.
1840.....	15.5 sq. mi.	2.0 sq. mi.
1850.....	15.5 sq. mi.	3.0 sq. mi.
1860.....	15.5 sq. mi.	4.5 sq. mi.
1870.....	15.5 sq. mi.	5.5 sq. mi.
1880.....	18.0 sq. mi.	7.0 sq. mi.
1890.....	18.0 sq. mi.	8.5 sq. mi.
1900.....	22.2 sq. mi.	10.0 sq. mi.
1910.....	23.4 sq. mi.	11.0 sq. mi.
1915.....	23.4 sq. mi.	11.0 sq. mi.

To-day, on the eve of the 250th Anniversary of the city's birth, it is proper to note that the city has for 90 years so conducted itself as to make here a place attractive to many thousands for home and business, has seemed, indeed, to have added to the natural advantages of its location, and to the advantages in transportation which canals and railroads inevitably brought to it, a certain atmosphere of dependableness and, one may even say of wholesomeness, which have drawn to it many excellent people. That the fathers have done well should be a stimulus, to those who must build the future city, to handle even more wisely a far more difficult task. Present day existence gives little time or desire for broad and thoughtful consideration of our future.

It is perhaps fortunate, therefore, that we are permitted to publish this Comprehensive Plan just when all of us are having forcibly brought to our attention the city's past, and, particularly, her promise for the future. As we compare the record of our city in the past half century with the story of what the next half century will bring, the former sinks into insignificance. Indeed, from this point of view this Commission, in the plans it here presents, lays itself open to the serious charge of underestimating the possibilities. All great American cities have failed continually to realize the vast dimensions of the burdens and the gifts the future would bring and failed to live up to that future's accomplishments. But we dare hope that, if we do no more, we here suggest how we may best meet some of the obligations that time will put upon our city.

Newark has experienced a great and steady increase in manufactures and in population. Predictions of the nature and extent of its further growth are not entirely speculative, for it is possible, somewhat to gauge future activity by careful calculations. The record of population increase up to 1910 forecasts a further increase

reaching one million in 1940. The sharp decline shown by the State census of 1915, however, is a warning of what may happen.

Fifty years ago Newark had almost unlimited opportunity for expansion. As it grew in numbers its habitable area increased. At the same time, however, towns sprang up and flourished close to its borders. These towns were the result of the desire of many, whose business was in Newark and in New York, to have homes free of certain of the conditions of city life. Newark is now bounded upon all sides save at the southeast by those cities and towns. Further expansion, save on the meadows, is impossible without absorbing some of these smaller municipalities. This would be an unwelcome step to many of them. The fact that the rate of increase in Newark's population is becoming less is not to be deplored, in view of the fact that the total increase in suburbs was far greater than the proportionate decrease in Newark. We can not say that the population within the city limits will not increase, for there is still a large, thinly populated area at the north and south and southeast. But, for the greater part of the city, residence development has probably reached its height—126 persons to the acre in one ward. It is possible, under the best conditions, to house properly 126, or even more, per acre; but not with the kinds of buildings found in this and neighboring cities. The following table is of interest here :

Table No. 1—Population and Area

Ward	Area Acres	Approximate		Approx. Pop.	
		Per Cent. Inhabited	Population 1910	Population Per Acre	Per Acre Inhabited
1	315	100 %	13,919	44	44
2	245	100 %	13,736	56	56
3	300	100 %	36,910	123	123
4	285	90 %	13,756	48	54
5	210	100 %	17,970	86	86
6	255	100 %	20,944	82	82
7	295	100 %	22,474	76	76
8	1,405	75 %	20,166	14	18
9	2,455	20 %	13,805	6	30
10	3,655	10 %	24,430	7	67
11	630	80 %	23,408	36	44
12	1,760	20 %	19,789	11	57
13	1,245	50 %	18,951	15	30
14	285	100 %	35,828	128	126
15	340	100 %	19,622	58	58
16	780	85 %	20,761	39	46

The population per inhabited area is greater than here indicated, for much of the occupied area is devoted to purposes which are non-residential. English authorities advocate, for the ideal housing condition, restrictions permitting only 25 persons to the acre. In the 8th Ward only do we approach this ideal. Newark, like other cities chiefly devoted to manufacturing, has a population largely of foreign birth or foreign parentage, and these new-comers always tend to live in close quarters. This is shown by the figures of approximate population per inhabited area from the 3rd and 14th wards, 123 and 126 respectively. These two wards form the so-called foreign quarters of Newark. The congestion in these should be

reduced. It can hardly be reduced, however, to 25 persons per acre, even in the areas not yet developed.

The table shows that vacant land lies chiefly in the 8th, 9th, 10th, 11th, 12th, 13th and 16th wards. For residential purposes the meadows land in wards 9, 10 and 12 can not yet be considered. There remain, then, approximately, 4,000 acres of land in the several wards not entirely occupied, which can accommodate an increase of 160,000 persons, allowing 40 persons to the acre. This corresponds to the present development in wards 9, 11 and 16, the Roseville and Clinton Hill sections. Within the present boundaries of Newark, therefore, we cannot look for the population greatly to exceed 600,000. Undesirable congestion could, of course, materially increase this figure.

Depressed business conditions and the European War have been considered the cause of decrease in Newark's rate of increase in population, shown in the State census for 1915. This conclusion must be modified in view of the facts, above stated, to the effect that the residential possibilities of Newark have nearly reached their limit. Cities normally expand in area in proportion to increase in population. Newark has not so expanded for many years. While there has been an increase in the number of persons actively engaged in business in Newark, an increasing number of these persons have made their homes in suburbs.

In 1912 a Traffic Census of the city was made, and supplemented by a second census in 1915. There are no figures previous to 1912 available for comparisons. But it is significant that, in this short period—a time of industrial and financial depression unequalled in the past twenty years—vehicular travel increased 23.84% and pedestrian

travel, 9.16%. With its immense advantages in rail and car termini, in transcontinental lines, in proximity to the greatest commercial and industrial center of this country, and in adequate water frontage, Newark's commercial and industrial activities may be expected to increase far more rapidly than in the past.

All this seems to imply that Newark now offers no advantages to the home seeker. On the contrary, it now offers more than do many other cities of its size and character; while the advantages of its suburban residential districts are unusual. For a more detailed description of Newark's advantages the reader is referred to the introduction to a previous report, "City Planning for Newark."

The future of Newark is closely allied to that of its surrounding cities and towns and our Comprehensive Plan naturally includes them all. Our work, however, is rather closely confined to Newark. We have, therefore, made relatively few suggestions for the great area of Newark's metropolitan district. This now contains 700,000 people and is rapidly increasing in population.

There are few, if any, legal obstacles to the execution of this Plan. If our premises are sound, the Plan, based upon them, is worthy of serious consideration; and, if found on further study to be also sound, it must be followed if the standing of Newark is to be maintained and improved.

The task of the city planner is only begun with the drafting of a Plan. There remains the problem of its execution. At the conclusion of this volume is a financial statement and chronological program suggesting a course of procedure for the execution of the Plan. To consider

this program soberly and with open mind seems, we are so bold as to say, the duty of every citizen.

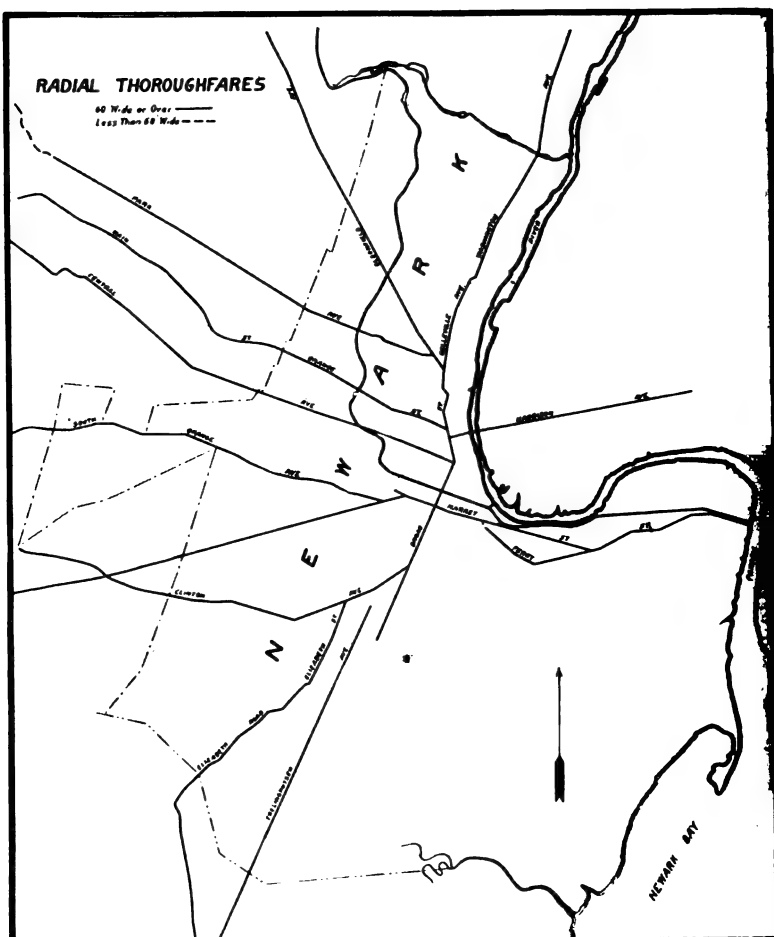
Acknowledgment should here be made of the services of employees and friends. In March, 1912, Messrs. George B. Ford and E. P. Goodrich were retained as expert advisers. At the end of a year Mr. Ford resigned to become Secretary of the Heights of Buildings Commission, New York City. Mr. Goodrich remained as expert adviser for three years. Messrs. Ford and Goodrich have since been called in consultation from time to time. Their services have been most valuable.

This Comprehensive Plan has been produced in the office of the Commission under the immediate charge of Mr. Harland Bartholomew, Engineer and Secretary.

To Messrs. Frederic Bigelow and Harry W. Tuttle credit and thanks are due for very helpful architectural studies. Acknowledgment is also due Dr. Cyrus F. Stimson, of the Playground and Recreation Association of America, for help in recreation matters and to Dr. James Ford, of Harvard University, for assistance in housing investigations.

The cordial co-operation of Mr. Morris R. Sherrerd, Chief Engineer of the Board of Street and Water Commissioners; Mr. William P. O'Rourke, Superintendent of Buildings; Captain William Allen, Secretary State Tenement House Commission; Mr. Carl Bannwart, Secretary Shade Tree Commission; Mr. Ernest D. Easton, Secretary Newark Anti-Tuberculosis Association; the Board of Health and other city departments, local business institutions and interested citizens, has contributed much to the successful completion of our work. These services are herewith gratefully acknowledged.

Mention should also again be made of the valuable aid given by local newspapers—*Newark Evening News*, *Newark Evening Star*, *Newark Eagle*, *New Jersey Freie Zeitung* and *Sunday Call*; also by the organ of the Free Public Library, the *Newarker*. The columns of these journals have always been open to us and their assistance in the work of publicity and education has been invaluable.



PLAN No. 2.

Newark is the center of a Metropolitan District containing 700,000 people. The remarkable system of radial thoroughfares leading to the suburban districts is shown on the map. The beginnings of this system were made in 1705 by a special committee appointed in Town Meeting for this purpose.

PART I.

STREETS, TRANSPORTATION, MARKETS

STREETS

Our streets are the things first to be considered in preparing a Comprehensive Plan, because we have in our business district a traffic problem which daily grows more difficult; because we need a definite policy of street opening in vacant areas soon to be occupied, notably the meadow lands; and because we ought to perfect our primary system of traffic highways before corrective measures become too costly to be made.

General Plan No. 1 shows the many suggestions made in this and succeeding chapters. It gives the prevailing direction of streets now in use. The rectangular or grid-iron plan prevails, with a remarkably complete system of radial thoroughfares.

A definite policy of street planning laid down long ago and followed to date would have made the measures here proposed unnecessary. This Comprehensive Plan gives such a definite program of development for the future as should have been adopted long ago. Without such a plan little progress can be made in our street system. With it—if it be followed—mistakes of the kind that have been so costly in the past can be hereafter avoided.

Relief of Congestion in the Business District

Twelve large radial highways lead from Newark to twenty cities and towns immediately adjacent. Within the business district the great volume of traffic using these arteries is concentrated upon two streets, Broad and Market, which cross each other at right angles. Accom-

panying illustrations show conditions at this intersection. The traffic at this point is here shown:

Table No. 1—Daily Traffic at Four Corners

	Vehicles		Cars		Pedestrians	
	1912	1915	1912	1915	1912	1915
Market, between Beaver and Broad...	2,277	3,636	1,955	1,697	68,253	41,550
Market, between Halsey and Broad....	3,252	3,261	1,517	1,664	77,036	72,556
Broad, between Me- chanic and Market...	4,052	6,052	1,097	1,245	52,109	53,547
Broad, between Bank and Market.....	4,210	5,974	1,536	1,255	82,493	72,071
	<u>12,791</u>	<u>18,923</u>	<u>8,104</u>	<u>5,861</u>	<u>279,891</u>	<u>246,724</u>
Per Cent. of Inc. or Dec.....	+47.99%		-3.98%		-11.85%	

The decrease in trolley and pedestrian traffic from 1912 to 1915, when these counts were taken, is due to a rerouting of the trolley lines to relieve this point. On the completion of the trolley terminal a still greater decrease can be expected. But the decrease due to change in trolley lines has added to the congestion at nearby street intersections, which are not fitted to meet the increase. Moreover, the benefit gained at the Four Corners by rerouting cars is offset by the large increase in vehicular traffic at that point.

The figures show that only by a change in the prevailing street system can proper traffic conditions be produced. The solution lies in the suggestions many times urged by this Commission, namely: develop those thoroughfares adjacent to and parallel to Broad and Market Streets upon which traffic will naturally and properly distribute itself.

These parallel thoroughfares will give the business district ample room for expansion, and by them the cause

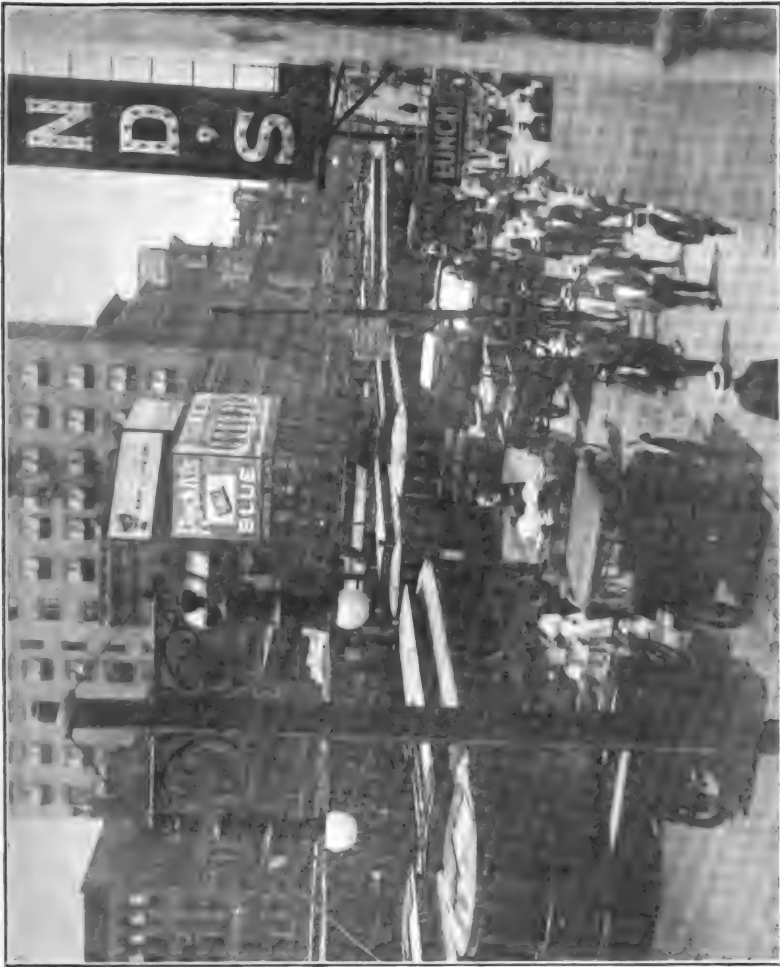


ILLUSTRATION No. 1.

BROAD AND MARKET STREETS, 1912. Congested traffic conditions here were a source of great annoyance. Many improvements, rerouting of the trolley cars, prohibition of left hand turns, better traffic rules, etc., have greatly improved conditions. See illustration No. 2.

of abnormal rise in value at this intersection, a rise very detrimental to all neighboring property, will be almost entirely removed.

The following improvements are essential to the relief of congestion in the business district:

Extension of Central Avenue from Broad Street to Market Street.

Straightening of Washington Street at Market Street.

Extension of Frelinghuysen Avenue to Clinton Avenue.

Widening of Lafayette Street from Broad Street to Mulberry Street.

Widening of Mulberry Street.

These five projects will provide for that growth in the city's business district which is so much needed, will solve the traffic problem at the city's centre for years to come, and will reduce by many thousands each year the present high tax on transport of men and goods within the city. The completion of these improvements is the only rational solution of Newark's traffic problem yet offered.

Front Street Straightening. In a previous report the straightening of Front Street was urged as one of the first steps toward relief of congestion in the business district. This work is now under way, as the accompanying illustrations show; an appropriation of \$265,000 having been made for it by the Common Council in 1914. This route will soon be open to trolley traffic.

Central Avenue Extension. Of equal importance is the extension of Central Avenue. It has long been urged as the improvement which will do more than any other to relieve congestion. It will create a much needed east and west highway via Central Avenue and Ferry Street or Market Street. It will afford direct communication



ILLUSTRATION No. 2.

BROAD AND MARKET STREETS, 1915. A greater volume of traffic is more expeditiously handled here than in 1912. Note new style of lighting and combination pole for lighting fixture and support of trolley wire.



ILLUSTRATION No. 3.

FRONT STREET, 1912. The first improvement urged by this Commission was the straightening of Front Street to permit better trolley transportation facilities here. See illustration No. 4.



ILLUSTRATION No. 4.

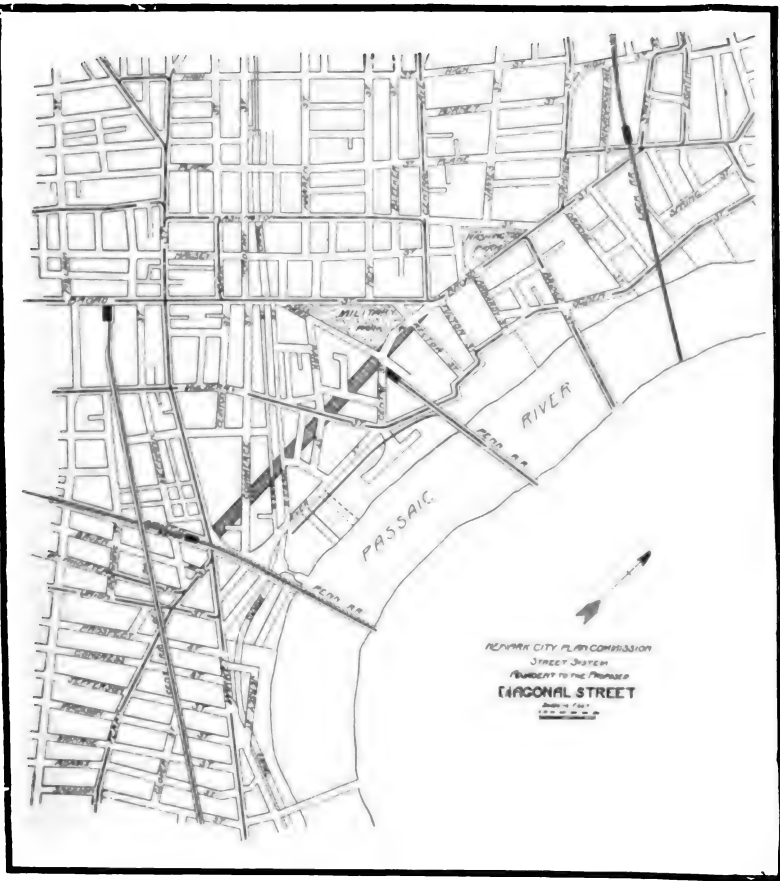
FRONT STREET, 1915. This view was taken from approximately the same position as was No. 3. The straightening of Front Street in the foreground and in the background is very nearly completed, at a cost of \$265,000. This thoroughfare will soon be open to trolley operation, affording much needed relief to Broad Street.

between the north and southeast sections of the city. It will open for better business development the section between Broad Street and Market Street, Centre Street and the Passaic River, now most undesirably developed.

The use of Centre Street and River Street has been suggested as an alternate to this plan. This route will not readily lend itself to good traffic operation and can never accommodate a large volume thereof. On River Street is the freight station of the Pennsylvania Railroad, recently enlarged to meet increased demands. A station such as this, requiring much space for standing vehicles, should never be located on a street largely used for through traffic. This means, of course, that an important thoroughfare should not be laid out to pass a great railroad freight station. Furthermore, the suggested alternative would not give us one of the greatest benefits that will follow Central Avenue extension—the opening up of a poorly developed district to better business development, with consequent increase in valuations.

That the proposed extension will parallel River Street 400 feet from it does not make it inadvisable, for there are no intervening streets, and a block depth of 400 feet is not too little for economic use. River Street should develop as part of a great wide street, paralleling the waterfront of Newark for the accommodation of vehicles carrying freight. The Central Avenue extension will accommodate rapid trolley transit and fast moving vehicles of all descriptions.

The proposed Central Avenue extension runs at a considerable angle with other streets in the vicinity and its construction would leave many irregular building plots. The recently defeated constitutional amendment permitting excess condemnation would materially have aided in the financial handling of the extension; but the improvement can be completed without such amendment. The



PLAN No. 3.

The extension of Central Avenue as shown above is the improvement most needed in Newark today. It will relieve traffic congestion on Broad Street and on Market Street. It will afford direct communication between the northern and eastern sections of the city. It will open up to better business development a section now poorly developed.

appearance of speculators on the scene is not a cause for delay. All cities, unfortunately, meet the same difficulty in making similar improvements.

Washington Street. Many reasons have been given for the development of Washington Street as the logical thoroughfare upon which to accommodate some of the traffic which now overcrowds Broad Street. These reasons are again emphatically stated. Despite the great width of Broad Street it is foolish to hope that one street can accommodate the major portion of travel north and south in the business section.

Several betterments are suggested in this street. The connection with Frelinghuysen Avenue will create the best and most direct crosstown street in Newark, with connections at either end to our largest neighbor cities.

These two streets are part of the official New York-Philadelphia route of the Automobile Club of America, and the present condition of Washington Street, instead of giving to strangers a proper impression of Newark, greatly discredits the city.

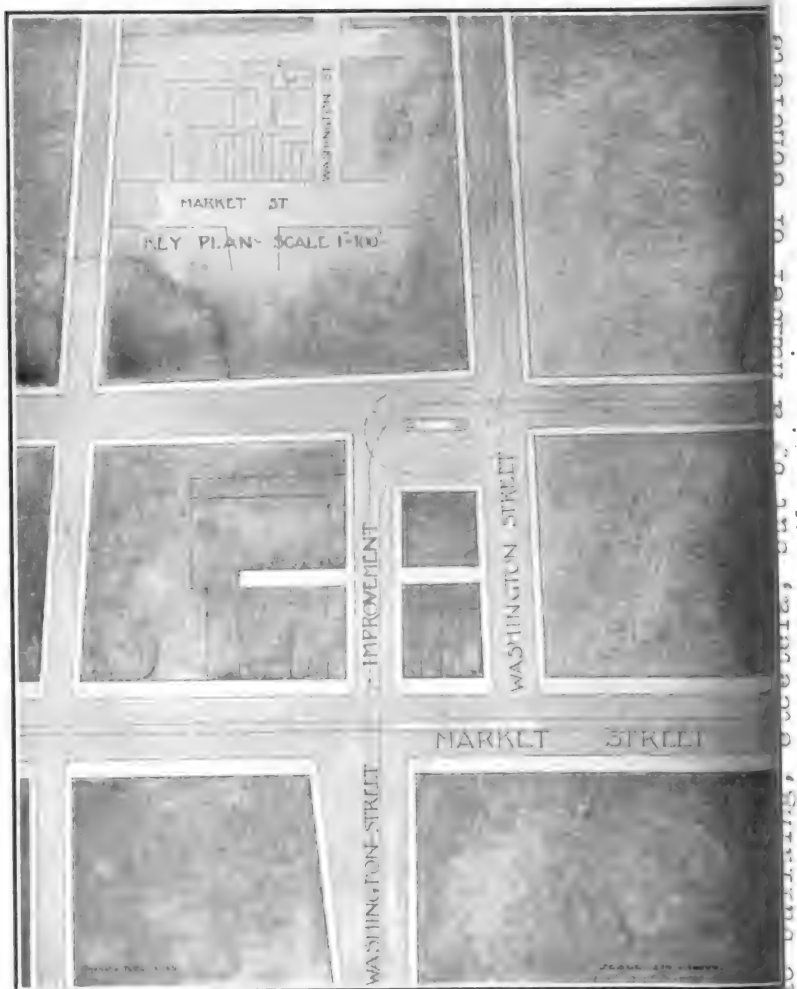
In previous reports we suggested that Washington Street be so straightened at Market Street, as to permit of a trolley terminal on the southeast corner of the intersection. As the traction company now has under construction a terminal on Park Place, the former plan has been abandoned and another is herewith submitted. The Plans Nos. 5 and 6 show a direct crossing.

For economic and aesthetic reasons a new plan for the continuation of Frelinghuysen Avenue to Clinton Avenue is shown, No. 4. While this latter is not as direct a route as the one previously urged, it would serve well the desired end and is less expensive in that it makes use of existing streets. The curved street here proposed would be very attractive and be a relief to the rigidity of the prevailing street lines.



PLAN No. 4.

FRELINGHUYSEN AVENUE, an excellent radial thoroughfare, loses its effectiveness through its lack of connection with a traffic artery in the center of the city. If connected with Washington Street, as shown, the best crosstown thoroughfare in Newark would be created.



PLAN No. 5.

WASHINGTON STREET, if straightened at Market Street as suggested in this plan, would afford much needed opportunity for direct crosstown traffic. This improvement will become increasingly urgent as traffic on Broad Street increases.

~~Grouping of Public Buildings, etcetera, but of a number of concrete suggestions for avoiding ugliness along the streets.~~

Housing is treated not only with specific recommendations for amendments to the laws, but by an analysis of the whole relation of housing to city planning.

Public control of the development of private property and the methods of attacking the problem are dealt with in detail. However, the specific recommendations for restricting the height and use of buildings in Newark are given merely as illustrations, as the principles for concrete recommendations applicable to Newark could not be worked out without much intensive study of local conditions.

Unique contributions to the report are the review of the work which has been done in bringing together all of the surrounding communities, in working for one common plan for the whole district, and the suggestions for future work of the Commission, - a chronological and financial program, specifying how each of the recommended matters should be carried through during each five year period for the next fifty years in the order of their relative urgency and importance.



PLAN No. 6.

Proposed straightening of Washington Street from Market Street to Branford Place. See Plan No. 5 for another view of the same improvement.

Washington Street should be widened to 100 feet. Time will prove the wisdom of this suggestion. The thoroughfares which must in time take up the traffic that is crowded out of Broad Street will develop their own business district of no mean proportions. Washington Street to-day cannot boast of much business development. For most of its length it is lined with frame structures used either for residence or petty business. It has few large structures and those it has have come within the past five years. Within 20 years the majority of all structures now on Washington Street will have been torn down and better ones built in their places.

A simple and inexpensive way to widen this street is to establish, by ordinance, new building lines to which all new structures must conform and to which all present buildings must recede within 20 years. If at any time during this period it should prove wise to hasten this widening process, it could be done for less cost than if it all were undertaken now.

Mulberry Street. The improvement of Front Street is very significant. It is the first step in the evolution of a third north and south main artery—Mulberry Street and Front Street. This new thoroughfare will give the needed relief of Broad Street on the east—a relief which will be most welcome to the growth of the eastern industrial districts. Mulberry Street, like Washington Street, can boast of little business development as yet, and its many small structures will nearly all be replaced within 20 years.

An ordinance should be passed establishing in Mulberry Street building lines 100 feet apart to which all new structures shall conform and all existing structures recede within 20 years. Inadequate width, both in Mulberry Street and Washington Street, is well shown by the illustrations.



ILLUSTRATION No. 5.

WASHINGTON STREET, showing insufficient roadway width between car tracks and curb. The removal of sidewalk encroachments, stoops, railings, etc., would give additional sidewalk room, sufficient to permit a widening of the roadway on each side to accommodate two lines of vehicular travel.

Lafayette Street. One more important street change in the business section is urged—the widening of Lafayette Street from Broad to Mulberry. All our traffic studies show that the growth of the city is largely to the south and west. With the development of the meadow area the tendency to the south will increase. The proposed extension of Central Avenue has for a chief object the relief of Market Street on the north. With the ever increasing volume of traffic and business in and toward the south, relief for Market Street will be needed in that direction. William and Lafayette Streets, if connected as proposed, will form the crosstown thoroughfare upon which we may expect this increase to be found, as General Plan No. 1 shows.

This suggestion should receive the serious and early consideration of the proper authorities. The value of the property involved, though great, is not excessive, and is steadily increasing. With one or two exceptions, the structures to be removed are not modern, but several of the older ones will soon be demolished and new buildings of much cost will be erected making the suggested improvement almost impossible financially. Again, a large new railroad terminal is soon to be built here, and the city can very profitably co-operate with it. By the suggested change Lafayette Street would be widened to 150 feet for one block fronting on the railroad station, thereby creating a street space highly desirable in connection with a terminal of the character proposed.

The four improvements suggested give the best solution we have found of the greatest business problem which faces Newark to-day. In a previous report it was shown that in a period of but three years from the time these were first suggested to the present day the assessed value of the property involved has increased by 10% to 20%. The total cost to-day of the changes urged will be several



ILLUSTRATION No. 6.

MULBERRY STREET, showing insufficient roadway width and some sidewalk obstructions. A greater roadway width is needed here. This could be secured at present by setting back the curbs and, eventually by widening the street to 100 feet as urged for Washington Street.

millions of dollars, it is true. On the other hand, to delay any or all of them for any long period will make their cost quite prohibitive.

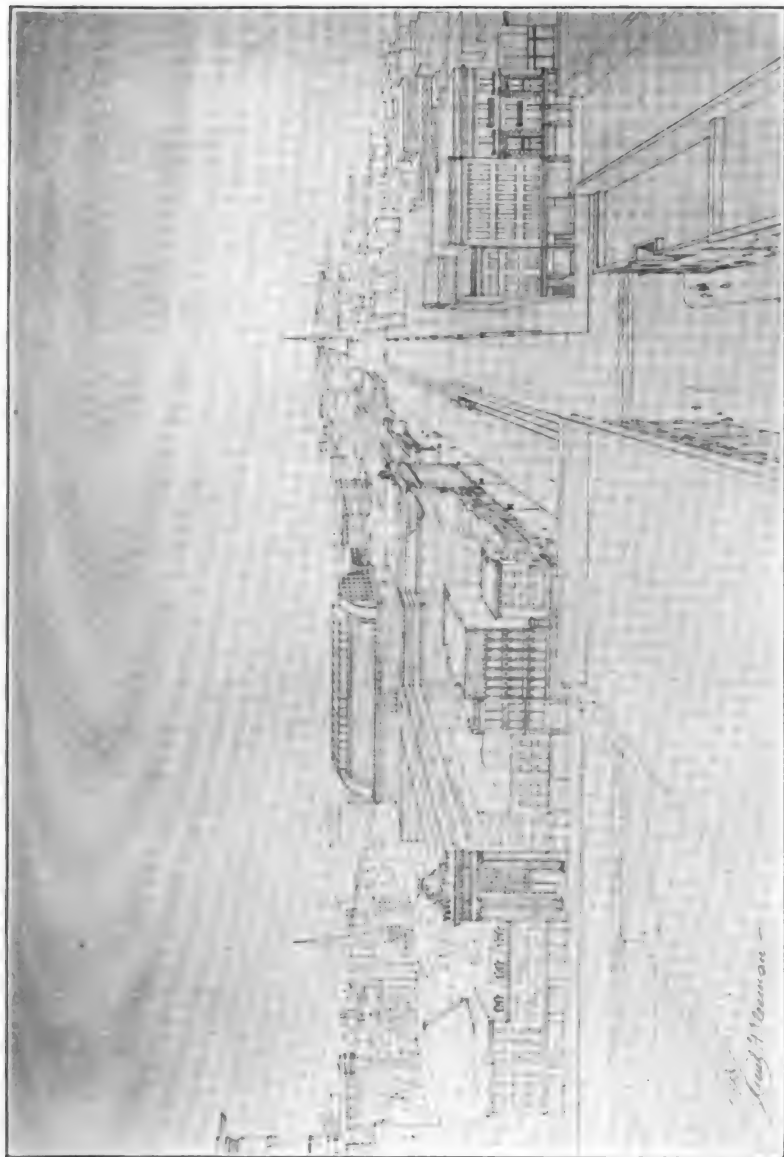
Briefly, the justification for this great expense is this: Except in its business district, Newark has a remarkably good street system, one which can accommodate all forms of transportation for many years to come; and if we will but adjust conditions in the business district, at the cost of a few millions, and thus properly distribute the city's ever increasing traffic, we shall not need for a long period to construct either subways or elevated lines and thereby impose a huge financial burden on the city.

Subways in New York cost, in some instances, \$1,250,000 per mile of single track in the business section. Newark should not refuse to learn, from this one item alone, that by exercising to-day a little foresight and common sense it can save itself in the future from untold inconveniences and vast financial burdens. Moreover, these changes will give us for generations a more comfortable and pleasing city, not afflicted with a network of either tunnels or elevated roads.

Again, the changes suggested will remove the absurd conditions to which property values have been brought within the district in question. Unused and obsolete buildings are far too common here. Increased industrial and commercial activities with greater population in the suburban districts, will warrant an extension, not a contraction, of the present business area.

Perfecting the Chief Arteries of Travel. Rectangular and Radial Systems

A gridiron street plan should have wide crosstown streets at certain intervals. The principal east and west arteries of travel in the rectangular system of Newark



PLAN No. 7.

The extension of Central Avenue to the north of Market Street will relieve present traffic congestion there. The growth of Newark, however, is to the south and there should be a relief street here. By properly connecting William Street with Lafayette, as shown, such a street would be obtained. The prospect of a new railroad terminal soon to be erected gives added reason for this improvement.

are Park Avenue, Orange Street, Central Avenue, Market Street, and its connections (Bowery Street and Plank Road on the east, Twelfth Avenue and South Orange Avenue on the west), William and Lafayette Streets, Eighteenth Avenue and Spruce Street, Avon Avenue, Clinton Avenue and certain others not in themselves complete or not yet much used.

North of Park Avenue there should be at least two more such streets. Elwood Avenue, for instance, should be made a crosstown street with a bridge to Kearny.

Abington Avenue could well be extended across Branch Brook Park to the city line.

Fourth Avenue should be extended to the Park.

Central Avenue, a fine type of east and west street as the illustration shows, should be widened from High Street to Broad.

Eighteenth Avenue should be extended through Vailsburg to the city line and connected at its eastern end with South Street.

Lyons Avenue is well equipped to meet future demands, but Hawthorne Avenue and Chancellor Avenue should be extended to meet large thoroughfares in the meadow district.

All of these suggestions are shown on General Plan No. 1.

The principal north and south arteries of travel are Tyler Street, Mulberry Street, Broad Street, and its connections (Belleville Avenue and Washington Avenue), Frelinghuysen Avenue, Washington Street, High Street, Belmont Avenue and its connections (Jones Street, Norfolk Street and Clifton Avenue), Mt. Prospect Avenue, Elizabeth Avenue, Bergen Street and First Street, Roseville Avenue and South Tenth Street.

The plan for the development of the meadow dis-

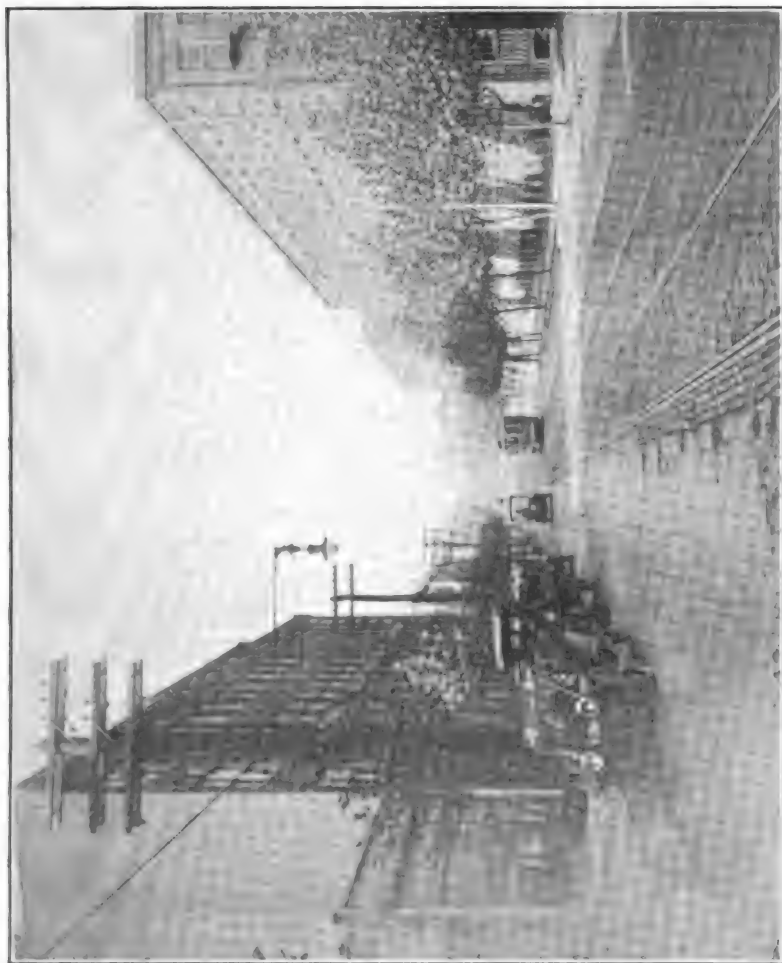


ILLUSTRATION No. 7.

CENTRAL AVENUE, an excellent example of east and west crosstown street sufficiently wide to accommodate the great amount of travel which uses it.

trict includes the creation of new north and south thoroughfares, two of which connect with Tyler Street and Mulberry Street.

The extension of Tyler Street to Ferry Street by widening Merchant Street is urged, also a connection from this point direct to the Jackson Street Bridge.

High Street should be straightened at Eighth Avenue and at Orange Street.

Belmont Avenue should be extended directly to connect with Elizabeth Avenue at Renner Avenue.

The block bounded by Springfield Avenue, Jones Street, South Orange Avenue and Beacon Street should be condemned, to permit a direct connection with Norfolk Street. The latter could well be widened to 80 feet or 100 feet throughout its length.

Bergen Street is already one of the best crosstown thoroughfares and we should create a similar thoroughfare to the west by connecting South Tenth Street with Maple Avenue on the south and with either Roseville Avenue or North Ninth Street on the north.

Grove Street, Munn Avenue and Halstead Street in the Vailsburg section should each be straightened and widened to 80 feet or 100 feet, if Irvington and East Orange co-operate in the work within their boundaries.

As early as 1705 Newark had the beginnings of its present admirable system of radial highways, leading in all directions from the business section. Few American cities have such broad, well-paved and well-distributed highways as are Frelinghuysen Avenue, Elizabeth Avenue, Clinton Avenue, Springfield Avenue, South Orange Avenue, Central Avenue, Orange Street, Park Avenue, Bloomfield Avenue, Belleville Avenue, Washington Avenue, Bridge Street and Market Street connecting with the Plank Road. Only in the meadow district is there a marked



ILLUSTRATION No. 8.

BROAD STREET, Newark's leading business thoroughfare. The original width of 132 feet has fortunately been preserved. An unusual volume of all kinds of traffic daily uses this street.

lack of radial thoroughfares, a lack due, of course, to want of general development. In Bay Avenue, however, we have already a much needed one and others will be found in the plan for this district.

That section of Newark which lies west of Bergen Street and south of Clinton Avenue will soon be developed. A new radial thoroughfare giving quick access to the center of the city is here needed. Clinton Avenue should be extended southwest from Jelliff Avenue, as shown on General Plan No. 1. This extension would be of great benefit to this locality and to that part of Union County which lies immediately west.

Extension and Improvement of Minor Street System

Except for the meadow area few portions of Newark are now not platted. Since March, 1913, when an act was passed which required all plats or replats of lands within the city limits to be submitted to this Commission for approval, six tract plans have been thus submitted. In each case note has been taken of grade, direction and width of proposed streets and of size and arrangement of lots, to make the new additions best meet all requirements. No large tracts now remain to be developed and such small vacant areas as still exist have been platted by us as shown on General Plan No. 1. Future street openings should conform closely to the lines there laid down.

Vailsburg. Note the condition of streets in the Vailsburg section on General Plan No. 1. A poor street plan is largely responsible for lack of growth here and also for that prime essential to proper development, transportation. On the plan is shown what must be done to open up this district properly. The co-operation of Irvington can well be secured in this work. Delay will mean to that town, as to Newark, a greatly increased expense in making



ILLUSTRATION No. 9.

BELMONT AVENUE, an example of a north and south cross-town thoroughfare having a width (100 feet) sufficient to meet all the demands which the future will make. Note the confusion of poles and wires. These should be removed.

inevitable changes. Excess condemnation could here be used to advantage.

Minor Street Changes. The lack of prearranged street plan has given us many unfortunate and inconvenient street widths, grades and alignments. This Commission has pointed out many of these defects in previous reports, usually explaining the reasons therefor. A list of the more important changes which the city could well undertake follows:

Bridge Street	Widen from the Bridge to Broad Street.
Bridge Street	Regrade from the Bridge to Broad Street.
Beaver Street	Widen from Clinton Street to Market Street.
Beaver Street	Extend from Market to Mechanic Streets.
Plane Street	Extend from Court to Washington Street.
High Street	Straighten at Orange Street and Eighth Avenue.
Third Avenue	Extend to Bloomfield Avenue.
Merchant Street	Widen from Lafayette Street to Ferry Street.
Jackson St. Bridge	
Approach	Extend to Ferry Street and Merchant Street.
Passaic Street	Extend to Riverside Avenue.
Twelfth Avenue	Extend through Fairmount Cemetery to 19th Street.
Twelfth Avenue	Extend through Holy Sepulchre Cemetery to Rhode Island Avenue, East Orange.

Standard Street Plans. In a previous report the cost of new streets was shown to be often excessive. It is difficult to divide streets into different classes and to fix specific rules for the development of each class, nevertheless a clear distinction can easily be drawn between streets which are used chiefly for residential purposes and those upon which is to be expected a large volume of traffic. The tendency in modern cities is now more than formerly to plan streets for the definite uses to which they are likely to be put, and to decide on the proper proportions of roadway and sidewalk in each case in accordance with established rules.



ILLUSTRATION No. 10.

SPRINGFIELD AVENUE, a type of radial thoroughfare well suited to accommodate the immense amount of traffic which now uses it.

A single vehicle needs about eight feet of roadway; a trolley car, ten feet. By the use of these two units the width of roadway needed upon any given street can be determined, basing the decision on the number of lines of travel to be expected on it.

Unless otherwise provided by ordinance, all streets in the city have sidewalks or footpaths, one-fifth the width of the street on each side of the roadway. We suggest that in planning future streets they conform to a standard plan. All streets which may form part of the primary system of traffic thoroughfares should be 120 feet wide. All streets which will probably always be used only for residential purposes should be 52 feet wide, with building lines 82 feet apart, thus allowing for houses a setback of 15 feet. Herewith is shown a proposed standard form for new streets. The first drawing shows a residential street; the second, a traffic highway in its last stage of development when the entire roadway has been given over to traffic purposes.

Standard street plans are oftentimes criticized because of lack of flexibility. The suggested plans should be adopted and followed, however, unless good reasons for departing from them can be given. We have built present streets with unsatisfactory results. To follow plans such as these, scientifically designed, means increased attractiveness, less cost for initial development, less cost of maintenance and greater effectiveness.

A Street Plan for the Meadow District

The street plan for the new vacant meadow lands is of the utmost importance. The large tract owned by the city should be platted to form the nucleus of a plan for the entire district. A good street plan has been laid out for that part of the canal zone now being filled. Unfortunately, street openings on the meadows, outside the



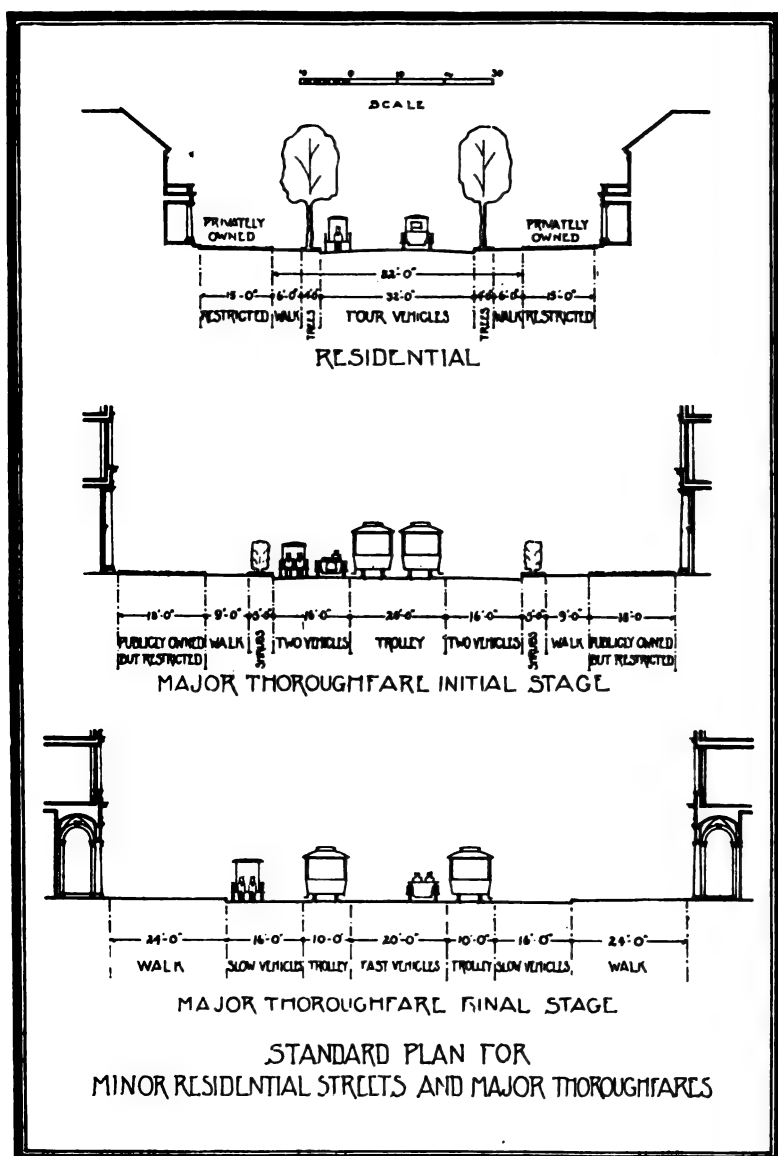
PLAN No. 8.

Adjoining Newark are several small towns which are growing without any well defined plan. The map shows the boundary line between Newark and Irvington. The uniform street system of Newark affords remarkable contrast to the haphazard plan of Irvington. This suggests the difficulties that confront street extension into suburban districts.

canal zone, have not all been made in accordance with a definite system. We find a tendency here toward haphazard planning. No further openings should be made save in accordance with an agreed scheme. Such a scheme is shown on Plan No. 10. In laying this out attention has been given to the special demands of commercial, industrial and residential districts, also to the creation of a primary system of radial and rectangular highways, thus assuring proper circulation and distribution of traffic. The plan includes the entire meadow, for the development of this whole area should be harmonious, and the co-operation in it of all interests should at once and earnestly be sought.

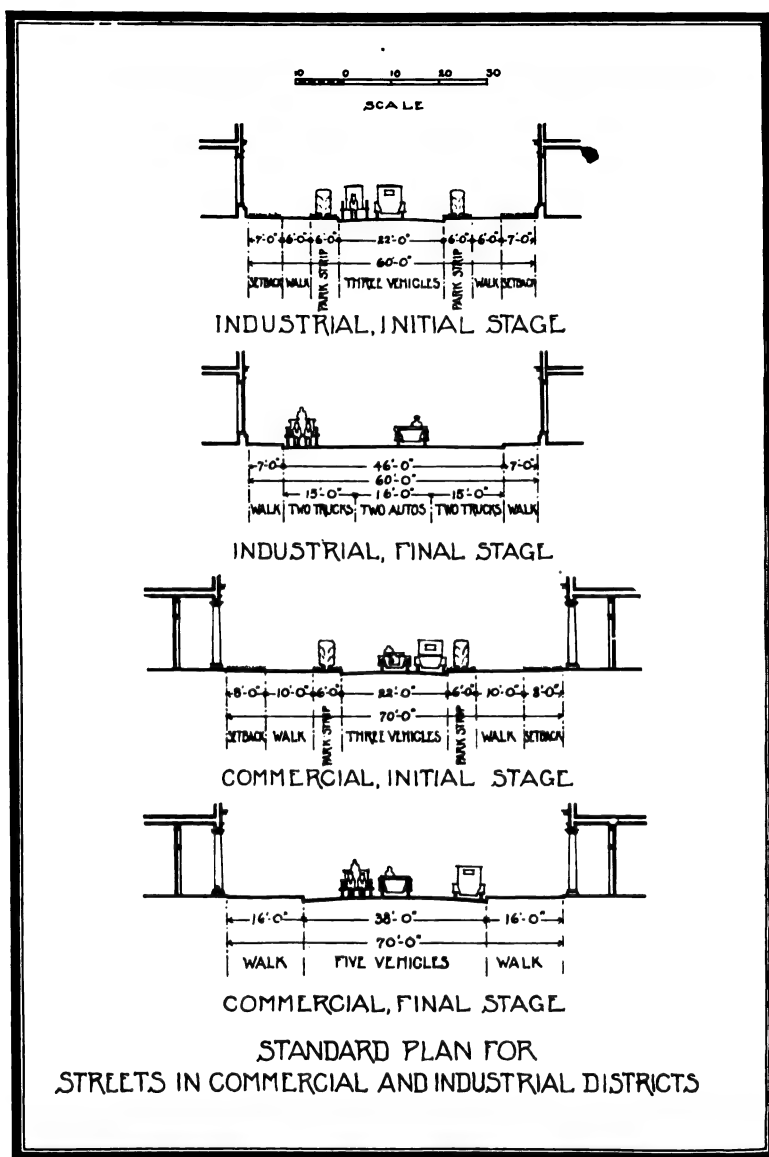
For the better execution of this plan we urge the abandonment of the following streets east of the Pennsylvania Railroad (Waverly Branch): Bessemer Street, Stockton Street, Hamburg Place (east of Avenue L), Balls Lane, Doremus Avenue, Plum Point Lane, Allegheny Avenue. Ordinances to effect these abandonments should be passed after due opening of streets on the official plan in this vicinity.

A standard plan for streets in the commercial and industrial districts should be adopted. A suggestion for streets in commercial and industrial districts is shown on Plan No. 11. The layout for residential and arterial highways previously suggested should be followed here also, as shown in Plan No. 9.



PLAN No. 9.

Improper street widths are due to lack of plan. A standard plan for residential streets and for business thoroughfares, as shown, would result in much economy. Street opening costs would be reduced and business thoroughfares could be arranged to meet the demands of traffic with little difficulty and expense.



PLAN No. 11.

The parts of Newark as yet unplanned lie chiefly in the meadow districts which will largely be devoted to commerce and industry. If a plan such as is shown here is followed the uniformity so desirable in such districts and great economies will be obtained.

CITY PLAN COMMISSION MEADOW DEVELOPMENT HARBOR IMPROVEMENT

SCALE 1"=1000'

HARRY W. TUTTLE, ARCHITECT.

- 1 PASSENGER FERRY
- 2 COMMERCIAL CENTRE
- 3 RECREATION PARK
- 4 RECREATION PIER
- 5 CAR FERRY
- 6 COMMERCIAL PIERS
- 7 STEAMSHIP PIERS
- 8 SHIP CHANNEL
- 9 GRAIN ELEVATORS
- 10 COAL PIER
- 11 BARGE CANAL TERMINAL
- 12 NAVY YARD
- 13 PARADE GROUND SUR-
ROUNDED BY BARRACKS
ADMINISTRATION
BUILDINGS, ETC

STATEN ISLAND

PASSAIC

RIVER

HACKENSACK

RIVER

PLAN NO. 1
Newark can do its share by institut-
ing the plans for easy movement of goods; the
stations under Transportation in Part I.
residential

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TRANSPORTATION

A city can serve well the human units that compose it only when its streets and transport systems are such as to make the movement of men and goods easy, direct, rapid and inexpensive. Private corporations subject to certain regulations, largely control transportation of all kinds. Public in place of private ownership of transport lines has been much advocated and has been tried with varying degrees of success and failure. To lay down general rules as to public and private ownership and control of public utilities has thus far been impossible. Each case seems to demand its own solution, a solution dependent on its own peculiar conditions; though it is generally admitted that public agencies and private interests can each best perform certain functions. The subject is here mentioned only because we make below recommendations which might not be wise for any other city, but which we believe are proper to Newark. The complex problem of transportation sometimes demand for wise results in certain fields, that public and private interests work together.

In the preparation of such a Plan as we are here suggesting, it is impossible to do more than suggest and recommend improvements, the execution of which lies chiefly within the power of private interests. While the recommendations we make seem wise from a public standpoint, to carry them out will call for much negotiation and frequent compromise. For this reason, what we here present may be called strictly tentative. If the city wishes to meet its traffic problems intelligently and solve them wisely, it must negotiate freely with the interests in control of public utilities. Only by so doing can it secure execution of a definite Comprehensive Plan.

The advent of the rubber-tired motor vehicle has revolutionized traffic conditions in cities the world over.

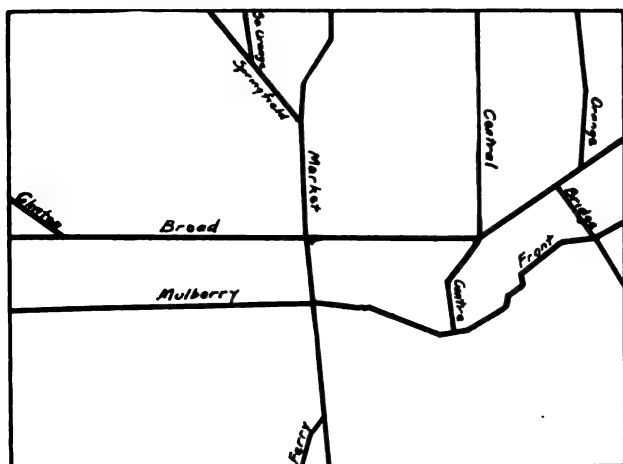
It has invaded the fields heretofore held by vehicles devoted to pleasure and commercial interests, and in the form of the motor bus has become a serious competitor of the street car. The past ten years have seen a most remarkable change in the character of vehicular traffic, and a still greater change will come in the next ten.

The recent traffic census of Newark made by this Commission (see Table 3) shows an average increase of 20% in the number of auto trucks and an average increase of 113% in the number of automobiles using the streets of the city in the short period of three years, 1912-1915. Yet, while the wheeled traffic throughout the city increased 23.8%, that of horse-drawn pleasure and commercial vehicles decreased perceptibly—29% and 13% respectively.

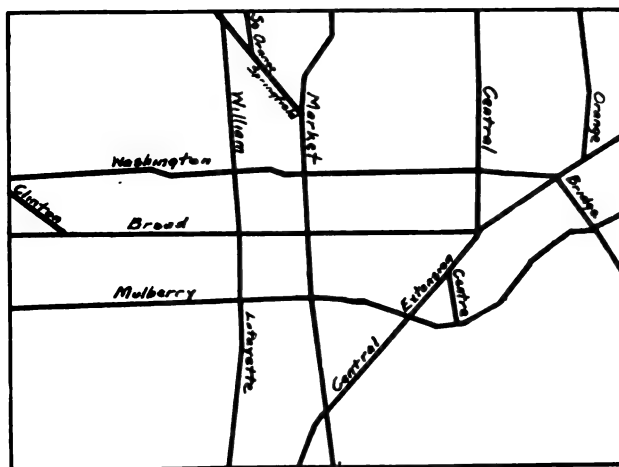
Automobile licenses increased in number in New Jersey by 21% from 1913 to 1914, and by 57% from 1911 to 1914. Put these figures with those just given of the increase of wheeled traffic in three years, 1912-1915, and it is evident that the number of motor cars on our streets will increase by at least 20% per year for some time to come. The very fact that the new form of rapid transit tends to widen the residence area of a city will bring an increase in the number of those who come, from remote homes, to or through the center of the city.

The large motor bus for passenger transportation has recently appeared in Newark, and this means of travel will surely occupy an ever-increasing field of service in this city, as elsewhere. In London and Paris several thousands of such vehicles transport yearly millions of passengers. In London, for instance, the passenger movement by omnibus in 1907 was estimated at 331,500,000. New York has seen a great growth in this kind of travel on the lines which had franchises therefor, and to-day there are many

THROUGH TRAFFIC ROUTES BUSINESS DISTRICT



• *PRESENT*



PROPOSED

PLAN No. 12.

The greater part of all traffic passing through the business district uses either Broad or Market Street, hence the congestion at their intersection. With the growth of traffic here congestion will increase until relief has been afforded. The development of through streets parallel to Broad and Market is the only logical solution.

applications for new franchise privileges before the city, submitted by new companies.

Newark must carefully consider the future use of its streets by this new form of wheeled traffic. Many of its broad, well-paved thoroughfares are admirably suited to such traffic. In the business district, however, adverse conditions which now forbid adequate trolley operation will become increasingly noticeable with the growth of the use of rubber-tired, gas-driven vehicles. The street changes suggested by this Commission would not only relieve present difficulties, but greatly reduce traffic congestion which otherwise will be inevitable; would remove for many years the obstacles to efficient rapid transit service by the trolley car; and would give to rapid transit by motor car the opportunity to enjoy, with no checks due to congestion, that vast increase which, as the figures of recent years show, is now taking place.

The most important factors in the transport question are street car or trolley systems, railroad systems, vehicular traffic and waterway facilities. For the improvement and extension of these in Newark we make the following suggestions:

The Street Car or Trolley System

The street car or trolley is entirely dependent upon the street plan for operation. Efficient service is impossible without proper street accommodations, though the latter is by no means the only essential to the former. As shown previously, the street plan of Newark is, in general, admirably suited to the needs of this form of transportation, and, if certain changes were made in the business district, it would be difficult to find a city with better transit opportunities.

The size and rapid growth of trolley transportation are shown by the annual reports of the operating company. In 1914 the number of passengers carried on the

Essex Division, which includes Essex, Hudson and Bergen Counties, was 162,059,550. Seventy to seventy-five per cent. of this traffic is accommodated in Essex County and originates largely in Newark. At the junction of Broad and Market Streets, where the greatest congestion occurs, a decrease of 3.98% (see table 2) in the number of cars making the crossing has resulted from the first re-routing plans. A terminal now under construction by the operating company, will, by further rerouting, lessen still more the congestion at this point.

More important than terminals, however, in properly distributing trolley traffic is an adequate street plan. Had the city realized this it would have undertaken before now the improvements strongly urged above, and would thereby have avoided certain difficulties which will arise, and steadily increase on Mulberry Street, Washington Street and Park Place. The operating company has appreciated the difficulties of this problem and tried to provide relief through the only means at its command, the erection of a terminal which is planned and so located to serve as a terminal, as an office building and as a center for interurban traffic in the event of the use of the Morris Canal bed for transit purposes.

The great fact remains, however, that the only effectual provisions for the permanent improvement of trolley transportation in Newark are based on the suggested improvements to Washington Street, Lafayette Street, Central Avenue and Mulberry Street.

Rerouting. If the suggested improvements in the city's centre were made, it is obvious that, without attempting to specify exact routes, lines from the north and south would find ample accommodations upon Mulberry Street, Broad Street and Washington Street, while lines from the east and west would use Central Avenue, Market Street and William Street and Lafayette Street.

With the present, and other easily added, looping facilities, serious transit difficulties would be avoided for fully 50 years, making unnecessary for that period either elevated or subway constructions with their prodigious costs.

In a previous report a detailed analysis of trolley transportation in Newark was given with certain suggestions for an effective rerouting of cars based upon present conditions. This Commission still adheres to those recommendations and again urges their adoption. Among these may be mentioned:

Placing of tracks on Washington Street from Broad Street to Central Avenue.

Operate the Bank Street loop in the opposite, right hand, direction.

Place tracks on Branford Place.

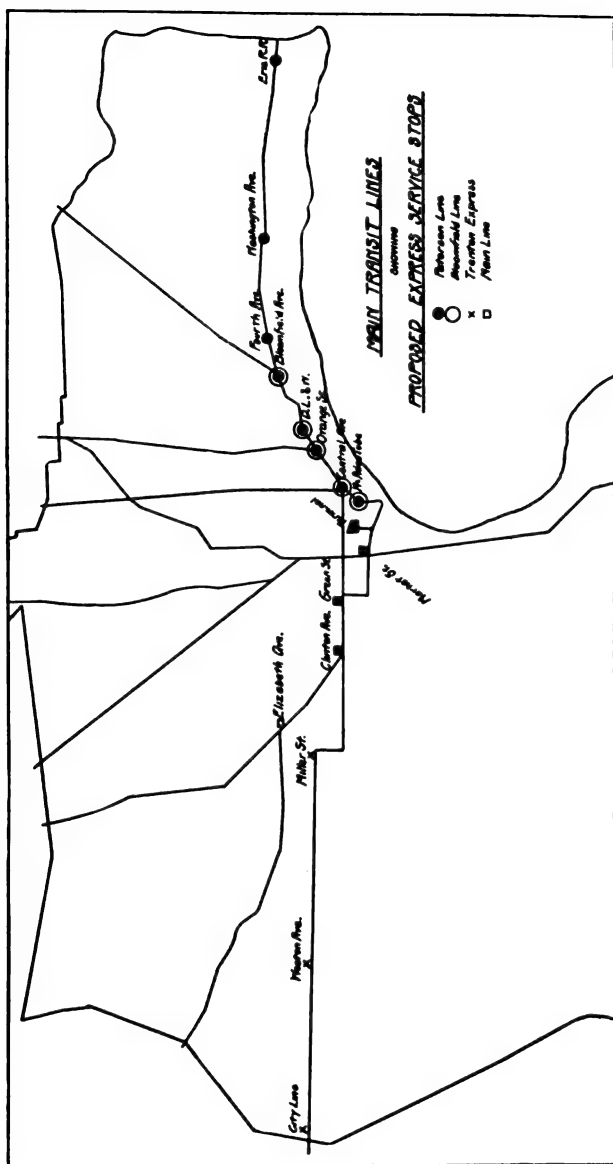
Operate certain lines from the west via new loop in Washington Street and Branford Place.

Operate certain lines from the south via new loop in Washington Street and Branford Place.

A rerouting plan, based upon the use of the terminal, primarily for lines doing suburban business chiefly, was suggested in the report already referred to. A close adherence to the proposed rerouting plan will prove beneficial until such time as better street conditions permit other changes. The proposed plan, slightly modified, is repeated herewith. The actual routing of all lines to be as follows:

Broad, Clinton, Mt. Prospect, Summer, Kearny, Harrison, Springfield (partial), Orange (partial), South Orange, Plank Road, Mulberry, Bergen, Clifton and Kinney as at present.

Central Line—Via Central Avenue, Washington Street to the terminal and return.



PLAN No. 13.

Certain trolley lines to suburban districts accommodate a small proportion of local traffic. The local service is afforded on streets already served by strictly local lines. Express service for lines accommodating suburban traffic chiefly is urged.

Orange Line (Partial)—Via Central Avenue, Washington Street to the terminal and return.

Springfield Line (Partial)—Via High Street, Warren Street, Washington Street to the terminal and return.

Trenton, Elizabeth and Main Lines—Via Broad Street, Green Street, Mulberry Street to terminal and return via Mulberry Street, Lafayette Street and Broad Street.

Bloomfield and Paterson Lines—Via Belleville Avenue, Clay Street, Ogden Street, Front Street, Mulberry Street to the terminal and return.

Hackensack and Turnpike Lines—Via Bridge Street, Front Street, Mulberry Street to the terminal and return.

Roseville Line—Via Orange Street, Broad Street, Bank Street, Washington Street, Broad Street and return.

Relation of Local and Suburban Traffic—Express Service. Quoting from the report previously referred to:

“It has been estimated that 34% of the total traffic in Newark is suburban; that is, originating or terminating beyond the city limits. This indicates that the suburban districts are a vital part of the metropolitan area. This suburban business is quite evenly distributed to the north, west and south. Some of it is transported over routes entirely unsupplied by other lines within the city limits, while in other instances there are both local and suburban lines supplying the same local territory. The relation between local and suburban traffic is small, and indeed so small that segregation of one from the other could easily and effectively be arranged. The time is not far distant when such segregation will be a necessity. With separate and distinctive centres for the distribution of local and suburban traffic, much of the present confusion would be avoided.

“Local travel retards quick and effective out-of-town service where the two use the same line. Where a sub-

urban line covers local territory which would otherwise remain unsupplied, and its suburban traffic is small, local operation is unquestionably expedient; but if its suburban travel is heavy, there should be a local line established to provide service solely for local business. Thus both suburban and local passengers will be given better service, the one getting faster operation and the other more seats. Express service then seems warranted upon a suburban line where the percentage of suburban travel is over 50% of the total. Specific instances are the Bloomfield, Paterson, Main, Elizabeth and Orange lines, the percentage of suburban business upon each of these lines being respectively 67, 84, 68, 62 and 64. Probably two, or at most three, stops within the city limits outside the loading zone would be sufficient for a large portion of all the cars of these lines, particularly during the rush hours."

The plan No. 13 shows suburban lines, with suggestions for local and express service after the opening of the terminal, and consequent rerouting. Express stops are shown, which could be designated by means of painted and proper signs.

Extensions. Additional lines should be placed on Eighteenth Avenue, from Springfield Avenue to Sanford Avenue; on North Ninth Street, from Orange Street to Bloomfield Avenue, and on such highways in the meadow district as conditions warrant.

Franchise Grants. It is further urged that additional franchise grants be made for a limited period, in no case exceeding 25 years.

Morris Canal. Upon the acquisition of Morris Canal bed by the State, in 1925, Newark should obtain for transport purposes all canal lands lying within the city limits. Upon the disposition of canal lands outside the city limits depends largely the character of our transport facilities. A high speed electric line on this right-of-way has often

been suggested and the location of the terminal now under construction is such as to permit the incorporation of such a service with present facilities. Changes in the grade should, of course, be made to eliminate present objectionable street crossings.

Vehicular Traffic

Vehicular, like street car traffic, depends entirely upon the street plan for its efficiency. Table No. 2 shows that while the re-routing of street cars reduced trolley traffic 3.98% at the Four Corners, vehicular traffic at that point increased 47.99% in the same period—from 1912 to 1915. This increase was due partly to the new pavement on Broad Street, though vehicular traffic throughout the whole city increased 23.04% within the same three years. The following table shows vehicular traffic counted at 107 places throughout the city in 1912 and 1915:

Table No. 3—Total Vehicular Traffic at 107 Observation Points in 1912 and 1915

	Iron Tires	Auto Trucks	Auto Mobiles	Rubber Tires	Street Cars	Total
1915....	69,471	15,322	72,463	7,342	43,483	208,081
1912....	79,823	5,065	34,016	10,338	38,755	167,997
Inc. or	—	—	—	—	—	—
Dec.....	10,352	10,257	38,447	2,996	4,728	40,084
P. C....	—12.97%	+202.51%	+113.03%	—28.98%	+12.20%	+23.04%

A comparison of the 1915 census with that of 1912 shows, for pedestrian travel, five points of decrease in excess of 30%, and forty-nine points of similar increase. Of vehicular travel there were four points of decrease in excess of 30%, and thirty-five points with a like increase. The decreases were due to construction, repaving or rerouting of trolley cars. Except in the northern section

of the city the increases were well distributed, showing that they were normal and desirable. The figures justify the previous assertions of this Commission that the principal growth of the city is to the west and south.

Save in the business district, our well-distributed system of radial streets and our secondary system of rectangular streets will afford good accommodations for vehicular travel for many years to come. In the business district, however, new arteries of travel are highly desirable. The several street improvements previously suggested will do as much for vehicular traffic as for other forms of transport, if not more.

Traffic Regulation

The problem of traffic regulation is next in importance to that of providing a sufficient number of routes in the business section. This is a matter for the police supervision and is attended to by the traffic squad of the Police Department. In accordance with a suggestion of this Commission officers have been stationed at the street intersections where the greatest amount of traffic was noted in the last traffic census. The chief obstacles to traffic are the lack of proper parking facilities for automobiles and the constant interruptions to the direct and expeditious flow of travel. The following suggestions are offered:

No parking should be permitted in streets having a roadway width of less than 32 feet.

No parking should be permitted for longer than one-half hour in business streets.

Parking should be permitted on one side only of streets having roadway width of 32 to 40 feet.

No parking should be permitted within 300 feet of any prominent street intersection.

Centre Market plaza should be used for parking purposes outside of market hours.

Lefthand turns should be prohibited at all important street intersections.

Regulation of pedestrian traffic at the Four Corners, crossings to be made only in the same direction and at the same time as vehicular traffic.

One-way traffic streets should be established as follows:

STREET.	BETWEEN.	DIRECTION.
Park Place	Broad to Centre	North
North Canal Street	Broad to Mulberry	East
South Canal Street	Broad to Mulberry	West
Commerce Street	Broad to Mulberry	East
Clinton Street	Broad to Mulberry	West
Mechanic Street	Broad to Mulberry	East
Beaver Street	Market to Clinton	North
East Park Street	Park Place to Mulberry	West
Pine Street	North Canal to East Park	North
Division Place	East Park to Centre	South
Bank Street	Broad to Washington	West
Academy Street	Broad to Washington	East

Waterfront and Waterways

East of the Waverly branch of the Pennsylvania Railroad are 8,000 acres of unoccupied meadow land, at present unsuited for building or other purposes. This meadow land borders on Newark Bay and the Passaic River for about five miles. Newark has an additional water frontage of about nine miles on the Passaic River. Of this 14 miles of waterfront only about two and a half miles are improved and extensively used. Adjacent to Newark Bay and Passaic River are thousands of acres of meadow land with undeveloped waterfront lying within the boundaries of neighboring cities.

A well-defined and unified policy of improvement for this entire district should be formulated and closely adhered to. Newark has initiated the work of meadow reclamation and waterfront and waterways improvement, and thereby has fixed the plan of development for a certain limited area. In the notes which follow we consider the development of the whole meadow area.

Meadow and Bay Suggestions. Meadow reclamation and waterway and waterfront improvement are closely allied. This vast expanse of meadow land and its adjacent waterway should be converted to the following purposes: receiving raw material by rail or boat without extra expense for transfer, shipping and cartage; transforming raw material into finished product with the least expense for rent, building, labor, light, heat and power; shipping finished products to their destinations.

A brief description of what the city has already done is here pertinent.

For \$2,250,000 authorized by referendum, a tract of meadow land having a frontage of 4,000 feet on Newark Bay and extending inland 13,200 feet was purchased; a channel 400 feet wide, 20 feet deep and 6,000 feet long from the pierhead line was dredged through the center of

this tract and connected with the deep water channel in Newark Bay; with the spoil removed from the channel 250 acres of meadow land were reclaimed after cribbing and bulkheading. This land may now be leased from the city by manufacturers. Along the north side of the channel a dock 4,500 feet long was constructed, from which a pier 1,200 feet long and 150 feet wide extends into the bay.

The federal government is to be asked to aid in this attempt to stimulate industrial and commercial development by dredging additional channels in Newark Bay next to the pierhead line, by removing obstructions and eventually by dredging the entire bay to navigable depth between pierhead lines.

The meadow land may be reclaimed by bulkheading and filling. The cheapest fill is that procured by dredging. Ashes and rubbish are used near the built-up sections of the city.

Experience indicates that good results can be obtained with a fill of about 10 feet, and that good support for foundations of buildings lies twenty to thirty feet below present levels.

The city can control all backlands and waterfront if it will proceed according to its own official plan. It cannot hope to acquire a large part of the waterfront; but it can prohibit developments which do not conform with the general plan.

Waterways and waterfront improvement form part of this Comprehensive Plan. We believe that this Plan should include:

- (1) A public port authority having control of the entire waterfront.
- (2) Removal of C. R. R. of N. J. bridge and of the rocks and reefs at the entrance of the bay.
- (3) A connecting railroad.



ILLUSTRATION No. 11.

PORT NEWARK TERMINAL. View looking toward the city showing the reclaimed land shortly after pumping operations had ceased. Dock construction is shown under way in the foreground. \$2,250,000 have here been expended for the purchase of 1,200 acres of meadow land, for dredging deep water channels, for building docks and piers, and for reclaiming 250 acres of land, now ready for lease by the city to manufacturers.

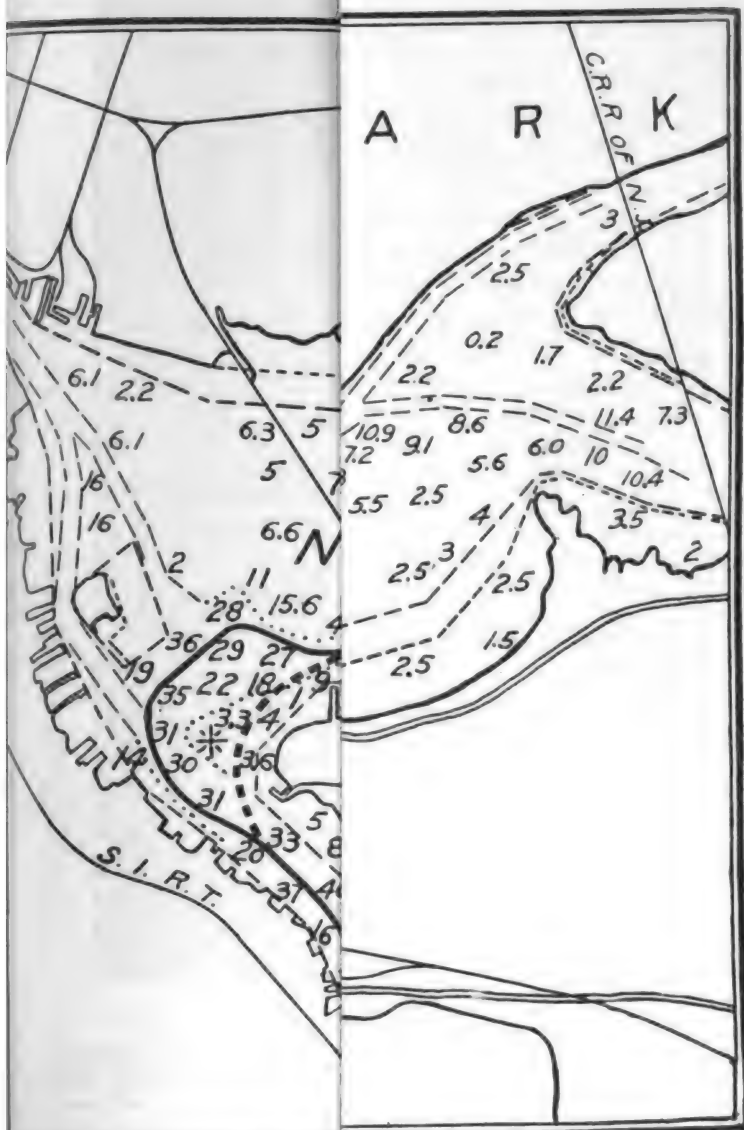
- (4) A uniform street system on the meadow area.
- (5) A zone system of industrial, commercial, warehouse and residential districts.
- (6) Channels of adequate width and depth.
- (7) Commercial quays, commercial piers, steamship piers, ferry slips, grain elevators, barge canal terminal, freight car transfer terminals, public wharves.

The federal government could profitably locate here a navy yard and outfitting station and its presence would increase the hope of government aid in dredging the bay and in removing the two obstacles to good navigation named above.

Plan No. 10 shows a harbor development scheme incorporating the above suggestions.

A Public Port Authority. The waterfront is a valuable asset and it is agreed that public control is essential to its successful development. A sea port is, in effect, a great terminal in which, if successfully organized, each part has its peculiar function and the several parts combine to form a perfect whole. Newark should first establish a Dock Department or Port Commission to manage and direct the city's waterfront possessions, and so far to supervise private enterprises as to prohibit activity contrary to the welfare of the port as a whole. A local authority so empowered will pave the way to the appointment of a Port Commission having charge of the entire development about Newark Bay, as suggested in the discussion on metropolitan planning below.

The New Jersey Harbor Commission, recently combined with the State Board of Commerce and Navigation, now has control of waterfront changes and improvements in all parts of the State. This is a step in the right direction. But a body charged with the supervision of the State's hundreds of miles of waterfront can not devote



NEWARK BAY—By all vessels using Port Newark Terminal Bay. Successful commercial development the C. R. R. of N. J.

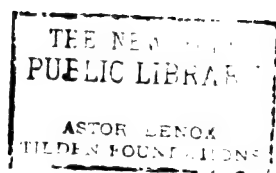




ILLUSTRATION No. 12.

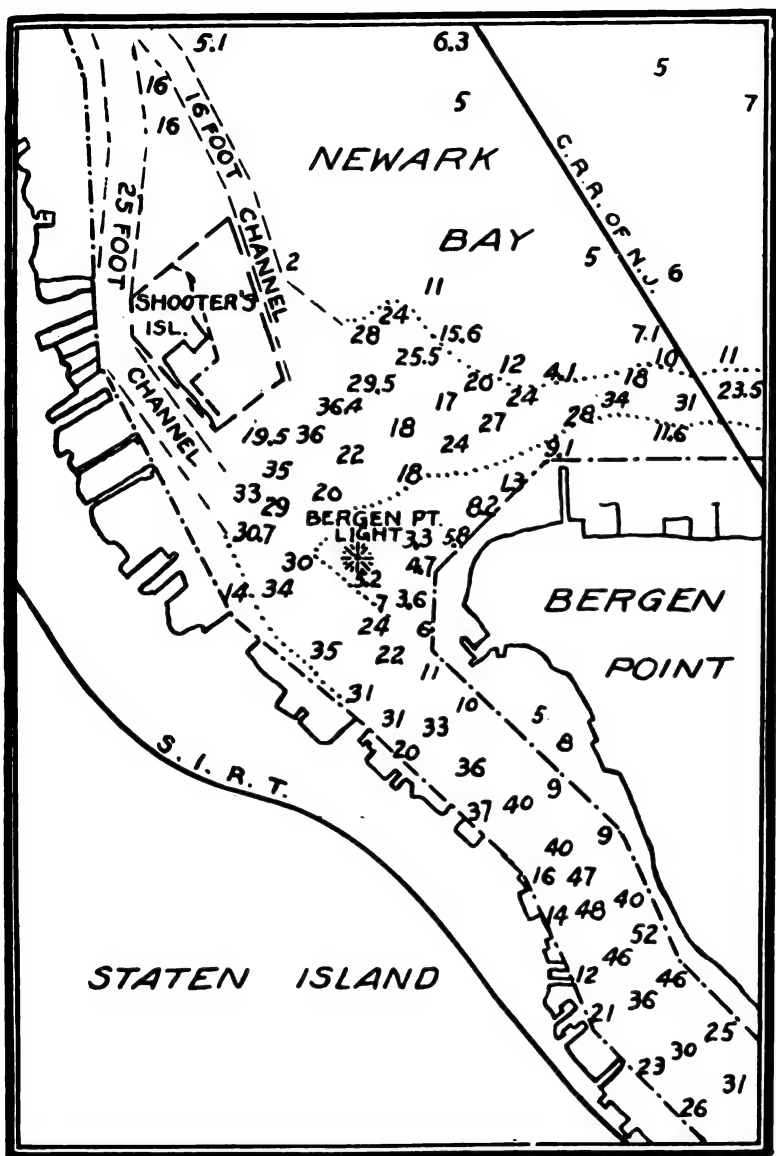
PORT NEWARK TERMINAL. View looking east toward Newark Bay showing pumping operations for reclaimed land and the new dock now under construction. The dredge, on the right, is approximately in the middle of the new channel, which is 400 feet wide and 20 feet deep and extends some 6,000 feet inland from deep water in Newark Bay.

much special attention to a single community or group of communities without special arrangement. A local body, acting under the State Board with authority over a limited territory, would be more effective.

Removal of Obstructions. Present commerce in Newark Bay is greatly hindered by rocks at the entrance to the channel from Kill van Kull and by the bridge of the Central Railroad of New Jersey. The first obstruction can be removed by the United States government. The bridge—a low structure, closely built with numerous piles and but one draw—is dangerous and should at once be removed by its owners. It is futile to expect any increase in commercial development in Newark Bay until these obstructions have been removed. Effort by Newark and other interested towns should promptly result in these necessary changes, the first step toward proper commercial development here.

Connecting Railroad. A connecting railroad, operated under public or private control or a combination of the two, is here essential. The route described in detail and shown on General Plan No. 1 would have sidings to warrant direct service, from any of the trunk lines entering this district, to any part of the industrial and warehouse districts and to all piers. An extension of this connecting railroad to serve suburban districts more effectively is discussed more at length under Metropolitan Planning.

Uniform Street System. One of the greatest obstacles to economic transport in large cities to-day lies in the failure of street systems to accommodate the large and growing volume of vehicular traffic. This obstacle is a result either of improper planning or of lack of plan. The essentials of a good street system for the undeveloped meadow district have already been set forth in detail, see Plan No. 10. Without such a system improvement here



PLAN No. 14.

ENTRANCE TO NEWARK BAY. Showing depths of water. Note shallowness about Bergen Point Light. The ledges of rock here form a very considerable obstruction to vessels going north under the C. R. R. of N. J. Bridge. Future traffic in Newark Bay will be greatly hampered unless these obstructions are soon removed. Map furnished through courtesy New Jersey Harbor Commission.

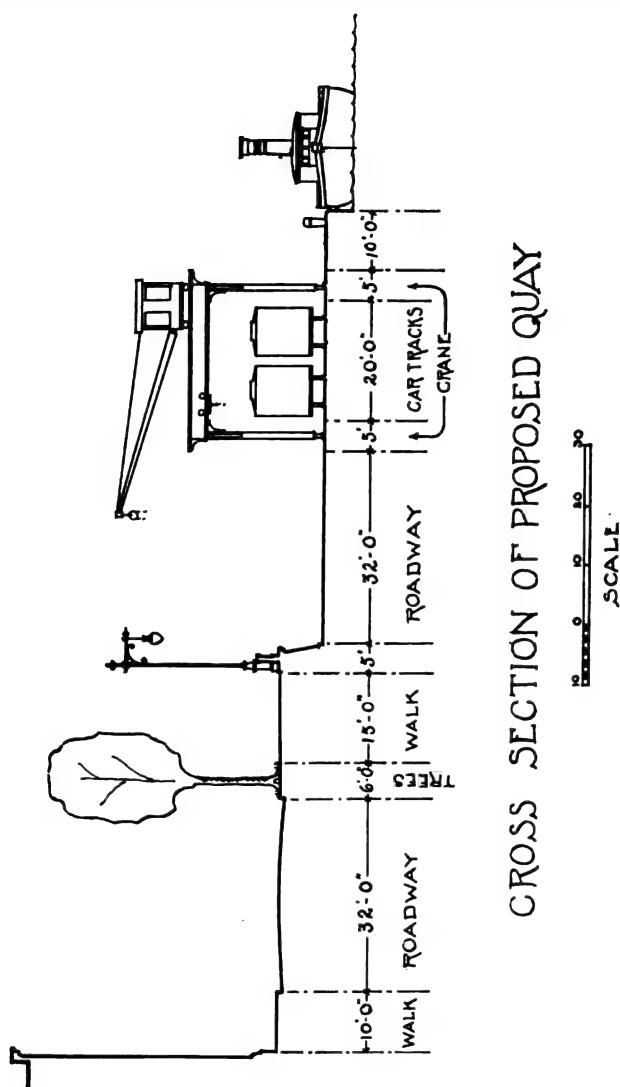
will be seriously impeded. Skillful city planning should here be appealed to and the conclusions reached should be carried out under proper authority.

A wide street of 200 feet has been planned to parallel the waterfront back of the warehouse district. It is placed back of the warehouse area because experience in other ports has shown that transfer of goods between piers and warehouses interferes with traffic on a thoroughfare next to the waterfront. The connecting railroad follows this street.

Districting or Zoning. Experience in several European and many American cities shows that manufacturing, business, residential and other districts should not be permitted to encroach upon one another. Districting or zoning of activities, confining each to its own area, can be carried out only by establishing restrictions upon private property development, and this American cities have been loath to do. But temporary restrictions by private deed do not prevent such evils as the placing of factories in residential areas. It is proposed, therefore, to establish zones for warehouses, industry, commerce and residence, which shall be devoted exclusively to these purposes. A stabilizing of values would follow from such a procedure. Definite restrictions, boundaries, etc., are discussed in detail under Districting below.

Channels. The present channel through Newark Bay and the Passaic River is 300 feet wide and 20 feet deep, and sufficient only for present commerce. In addition to the removal of obstructions in the bay, government aid will be needed in dredging channels similar to this one adjacent to the pierhead lines in Newark Bay, with an increased depth of 30 feet and in removing all material between pierhead lines.

Commercial Quays. All improvements of Newark's waterfront on the west bank of the Passaic River have



CROSS SECTION OF PROPOSED QUAY

PLAN No. 16.

The waterfront is a city's most valuable possession. The entire river front as far north as Mt. Pleasant Cemetery should be acquired by the city, and a commercial quay built, as suggested in the illustration.

been made close to the center of the city. Practically the entire river front is owned by private interests. Much of it is not yet developed and to make use of this valuable frontage most effectively a quay development, similar to that shown in the accompanying plan, is recommended.

The Passaic River is too narrow for the construction of piers. Moreover, the land back of that portion of the river front now in use is too valuable for warehouses and extensive industrial structures. These facts form a most effective argument for a commercial quay, provided with equipment for the transfer of goods to and from rail and water carriers and vehicles. Separation of grades where possible is recommended, with access to separate levels by ramps. When the city has acquired enough streets along the river front to warrant the construction of quays, the connecting railroad should be transferred to them.

Commercial Piers. Facing the bay should be built for commercial purposes as the need for them appears, a series of piers 1,200 feet long and 150 feet wide with slips having a width of 300 feet. On these piers switches from the connecting railroad would make possible direct transfer of goods from rail to boat and *vice versa*. Most of the business of the port would be transacted on these piers. All vehicles would have access to them, warehouses would be placed immediately back of the commercial piers to which goods would be conveyed from the piers by mechanical equipment.

Steamship Piers. Because of unusual deep water facilities the New York Harbor has become and will continue to be one of the principal terminals of the ports of the world. By virtue of its natural location the port at Newark Bay will become a center not of passenger transport but of manufacturing. Comparatively few piers need here be devoted to steamship business.

Ferry Slips The extension of waterfront improvements will necessitate added means of communication between the several parts of the port and with points in New York Harbor. The Ferry Slips suggested on the plan are placed, for most effective service, near the foot of large radial streets.

Grain Elevators. At present grain is brought by rail to the New Jersey side of New York Bay and transferred by lighters to points on the New York shore. The establishment of grain elevators, as shown on the plan, should encourage additional business of this sort.

Coaling Station. Adjacent to the large railroad classification yards there should be piers equipped to supply coal for carriers using this port.

Barge Canal Terminal. An immense sum has been expended by the State of New York upon the barge canal, which, it is expected, will bring a great increase in business to the port of New York. A terminal for this traffic should be established here.

Freight Car Transfer Terminals. The trunk line railroads which terminate at the New Jersey shore transfer on floats a large number of freight cars to various points in New York Harbor. Such traffic will undoubtedly increase and provision should be made for these terminals near the railroad classification yards.

Public Wharfs. In every port there is a demand for public wharf facilities and several such have here been provided.

Summary of Waterfront and Meadow Plans. This plan for the waterfront is not suggested as something to be carried out at once. It will take years to complete it. But only by following such a plan persistently and with wisdom can the desired ends finally be reached. The conclusions here presented are the results of a careful study of present conditions. If carried out Newark may in time become a seaport of importance. An estimate of cost is impossible without definite knowledge of the extent of municipal ownership involved. Much can be accomplished by municipal control and should municipal undertakings result in producing good revenue additional expenditures will be warranted.

Railroads

Newark is not a terminal for passenger transportation to distant Western points, although it has the advantages of all express service stops. It is, however, a terminal for passenger service to and from points in the metropolitan district. Because of this, the wide distribution of stations is desirable, as opposed to the complications of a union station. Competition has brought, for the most part, efficient and adequate service, both local and express. There are but two serious problems which require immediate attention—elimination of the remaining grade crossings and provision for adequate and suitable stations.

Both the Pennsylvania Railroad and the Central Railroad of New Jersey have recently issued public statements announcing that new stations are to be built on Market Street and on Broad Street respectively. The Lehigh Valley Railroad has a new station at Meeker Avenue, and the Erie Railroad should soon replace the unsightly structure at Fourth Avenue. A more attractive and permanent terminal building should be erected for the McAdoo tube in Park Place.

The city authorities should urge action by the Public Utility Commission to abolish the following grade crossings: two on the Greenwood Lake Division of the Erie Railroad at Summer Avenue and Mt. Prospect Avenue; four on the Newark Branch of the Erie Railroad from Fourth Avenue to city line; one on the D., L. and W. Railroad at Fourteenth Street; fifteen on the West Newark Branch of the Pennsylvania Railroad.

The Greenwood Lake division of the Erie Railroad should be raised to make an overhead crossing at both Summer and Mt. Prospect Avenues. The Newark and Paterson Branch of the same road should be elevated throughout.

The elimination of the crossing at Fourteenth Street depends upon the decision of the D., L. and W. Railroad either to elevate or to depress its tracks in East Orange, a decision which has been too long delayed. The West Newark Branch of the Pennsylvania Railroad should be either elevated or depressed before a serious accident forces this action.

There are four railroad terminals for freight and commodity transfer in Newark—the Pennsylvania Railroad at South Broad Street, the Central Railroad of New Jersey at Broad and Lafayette Streets, the D., L. and W. Railroad at Broad and Cross Streets, and the Erie Railroad at Fourth Avenue—each of which is so situated as to permit proper and economical distribution through the entire city, with the exception of market supplies. The establishment of a wholesale terminal auction market with proper railroad connections is discussed in a later chapter.

Future activity along the waterfront and on the meadow lands will go far to determine a railroad plan for Newark. The Newark of the future will be an ever-increasing commercial and industrial rather than residential center. Its waterfront facilities, also, will eventually make of it a terminal port of enormous proportions, where rail and water shipments terminate or transfer. Already the Pennsylvania Railroad, the Central Railroad of New Jersey and the Lehigh Valley Railroad have large freight yards within the meadow district, on the west, south and north respectively. The plan suggests the expansion of these into classification yards large enough to meet all demands.

Connecting Railroads. Provision is needed for transfer to the other trunk line railroads in the metropolitan district, namely, the D., L. and W. and the Erie to the north, and the Baltimore and Ohio and the Philadelphia and Reading to the south. A connecting railroad is sug-

gested to follow the wide street paralleling the waterfront throughout the meadow area. A circuitous route, if needed, could be laid out, via the Waverly and West Newark branches of the Pennsylvania Railroad with an extension north on Morris Avenue to Dickerson Street and over the Morris Canal right of way to the Greenwood Lake division of the Erie Railroad, as shown on General Plan No. 1. The connecting railroad should be elevated eventually throughout to avoid grade crossings. This route has been studied from an engineering standpoint and is pronounced practicable.

In detail the route runs from a connection with the Greenwood Lake branch of the Erie Railroad at Washington Avenue south via Newark branch of the Erie Railroad over Ogden Street, Front Street, River Street, then via Morris Canal right of way with a connection at Passaic Avenue with Manufacturers' Branch, Central of New Jersey, and with the D., L. and W. at Cross Street. From the Manufacturers' Branch of the Central of New Jersey the circuit could be completed as suggested above by a connection with the Waverly branch of the Pennsylvania Railroad. An extension to the south would follow the wide street back of the waterfront, making connections at Elizabethport with the Baltimore and Ohio and the Philadelphia and Reading.

If the railroad companies could be convinced of the financial advantages involved in constructing trackage necessary for such an undertaking, a municipally-owned connecting railroad, or one privately owned and aided by municipal funds, might be attempted, to follow the general lines suggested, provided a close study of the character and values of freight transportation should warrant it. Similar undertakings in other cities have proved successful, with some exceptions due to failure to forecast conditions wisely.



ILLUSTRATION No. 13.

CENTRE MARKET. Commission merchants occupy the first and second floors of the buildings to the left. Farmers use the open plaza in the early morning hours to sell foodstuffs to local dealers of the city. The long low building to the left is the retail market. This site, owned by the city, is valued at about \$2,000,000, being located near the business district. Its sale is recommended, proceeds to be used to erect a wholesale terminal auction market, and local retail markets near local population centers.

MARKETS

Previous reports of this Commission describe in detail present market conditions in Newark, and though suggestions for change have been made here as in other cities, little has been accomplished. There are three kinds of markets, which, if properly established, should afford fresher, cheaper and more easily obtainable foodstuffs for Newark: (1) a wholesale auction market, (2) a farmers' market, and (3) local retail markets. The experience of European cities and modern tendencies in American cities justify the adoption of such a system of markets here.

Wholesale Auction Market. Direct handling of commodities from producer to consumer is essential. This is impossible in Newark at present, since there is but one market for retailers, farmers and commission men. The expenses and the profits of the middlemen increase the cost to the consumer. There can be no railroad connections because of its situation, which means loss of time, and damage to commodities in transport.

This Commission again recommends a wholesale terminal auction market at Poinier Street, east of the Pennsylvania Railroad, where the local retailer may buy commodities at auction direct from the cars. Connections here with all railroads bringing foodstuffs to Newark would permit transfer of freight cars to this point, as shown on the accompanying map.

Retail Markets. The large, centrally located type of retail market has outlived its use in Newark. This is because of many changed conditions, chief of which is that a large population has been so widely distributed that one or two centrally located markets can serve only a small part of it. Again, the telephone, delivery service and corner grocery have revolutionized marketing methods.

Newark has now one large centrally located retail market which serves less than four per cent. of the population. It has no railroad connections. Foodstuffs are not cheaper or fresher here than elsewhere, for the stall owners, like other retailers, purchase from farmers and commission men. At present the city acts only in the role of the belated owner of an unsightly and unsanitary structure and the beneficent landlord of a few privileged stall holders, and the friend of the few citizens who can easily reach the market.

The construction of a wholesale auction market would be the first step toward cheaper commodities for Newark. The establishment of several retail markets near local population centers should be the second step.

General Plan No. 1 shows locations for retail markets as follows:

Eighth Avenue and Sheffield Street.

Broome Street and Eighteenth Avenue.

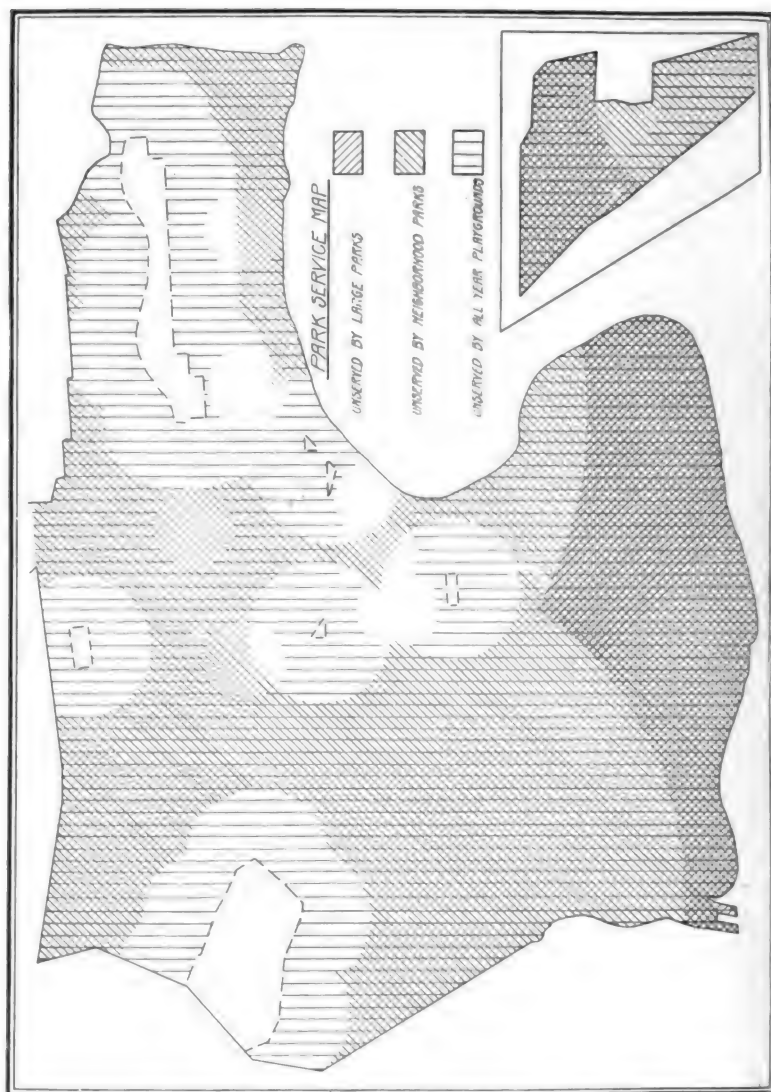
Springfield Avenue and Tenth Street.

Ferry Street and Hamburg Place.

Farmers' Markets. The farmer who lives within driving distance of this city sells his produce here as quickly and at as high a price as possible. Time is an important consideration with him. He will sometimes sell his goods in bulk for half the retail price to save the time of disposing of them in small quantities. Farmers sell indiscriminately to retailers and commission merchants.

Farmers' Markets established in connection with a wholesale auction market and with the local retail markets would thus furnish an open market for farm produce, bringing better prices and fresher articles to the consumer.

Recommendations. We believe that, because of its location, Centre Market fails to furnish foodstuffs cheaper and fresher than elsewhere in the city. We also believe that the presence of this market is detrimental to the development of surrounding property. We recommend, therefore, that the present site be sold and that a wholesale terminal auction market and local retail markets be established with the proceeds thereof.



PLAN No. 17.

Newark compares favorably with other American cities in the character and extent of its parks and playgrounds. The plan shows districts now unserved. Suggestions in this report urge new parks and playgrounds sufficient to serve adequately the entire city.

PART II.

PARKS, RECREATION, PUBLIC BUILDINGS APPEARANCE OF CITY STREETS LOT AND YARD CULTIVATION

Parks

The purpose of a park is to give opportunities for recreation. In or near Newark there are four distinct types of parks which serve this purpose: (1) Playgrounds and small parks, (2) Neighborhood parks, (3) Large parks, (4) Reservations.

Exception might be taken to classing together playgrounds and small parks, yet each is designed to accomplish the same result in a somewhat different manner. The superfluous energies of youth find an outlet in playgrounds under trained supervision, while the small parks give to adults opportunity for relaxation from the fatigue of daily labor.

Newark is well known for its admirable parks. Chief among them are those controlled by the Essex County Park Commission, of which Branch Brook and Weequahic are perhaps the most attractive. Each is located within the city limits and is of comparatively recent construction.

Branch Brook Park, near the geographical center of the city, contains 280 acres. It has a large lake much used for boating in summer and skating in winter, a boat house, band stand and concert grove, a children's playground, a running track and athletic field, and a large field for tennis, cricket, football and baseball. It lies on reclaimed swamp land, in the valley of a small stream, and is a delightful retreat with winding walks and drives past wide lawns and through many trees. It has large plantations of spring, summer and fall flowers in many varieties.

Weequahic Park, at the southern extremity of the city, contains 315 acres; the ground it covers was naturally,

fitted for park purposes and required less change in form than Branch Brook. It has a lake of 85 acres, on and in which boating, canoeing and fishing are permitted. There are numerous tennis courts, game fields, band stand, golf course, trotting track, and excellent walks and drives over rolling country.

Table No. 4 shows the number, character and size of parks of Newark, and the areas served by them.

Table No. 4—Parks

TYPE		Number	Acreage	Average Acreage	Effective Radius Miles	
1.	Playgrounds and Small Parks	{School.....	21	6.87	.33	.25
		{All year.....	9	6.40	.71	.25
		{24 City.....	25	12.66	.51	.10
		{1 County.....				
2.	Neighborhood Parks	{3 City 2 County}.....	5	49.95	9.99	1.00
3.	†Large Parks, County.....	2	585.70	297.85	3.00	
4.	*Reservations, County.....	2	1983.32	991.66	8.00	

*Not within city limits, but readily accessible and much used.

†5 Playgrounds in county parks, not included in this list, are maintained by the Essex County Park Commission.

**The Parks of Newark—Except Playgrounds and Small Parks—
With Average Acreages**

Neighborhood Parks

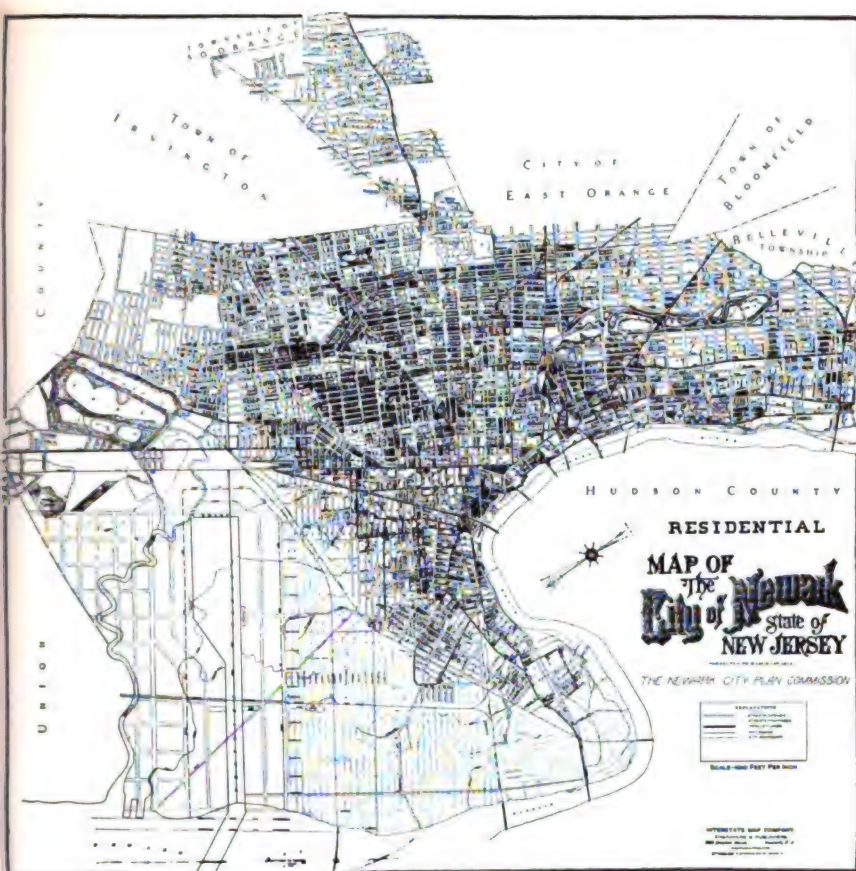
West Side	County	23.04 acres
East Side	County	12.69 "
Military	City	6.45 "
Lincoln	City	4.37 "
Washington	City	3.40 "

Large Parks

Weequahic	County	315.08 acres
Branch Brook	County	280.82 "

Reservations

South Mountain	County	1983.32 acres
Eagle Rock	County	408.54 "



PLAN No. 18.

Residential Map of Newark. The distribution of the residential population as given on the insurance maps is here shown graphically by dots. Each dot represents 25 people. The congested sections are shown very clearly by the density of the dots. Note the room for expansion to the north, south and west, where dots are less numerous.

Table No. 5 shows the population, area, park area and population per acre of park of the 20 largest cities in the United States.

Table No. 5—Parks in Other Cities

City	Population 1914	Area Sq. Miles	Park Area Acres	Pop. per Acres of Park
New York.....	5,333,539	326	7,223.16	738
Chicago	2,393,325	191.50	4,428.50	540
Philadelphia	1,657,810	129.50	5,205.08	318
St. Louis	734,667	48	2,740.00	268
Boston	733,802	47	2,500.00	293
Cleveland	639,431	51.8	1,855.17	344
Baltimore	579,590	31.50	2,285.31	253
Pittsburg	564,878	41	1,328.89	425
Detroit	537,650	41.75	1,199.91	448
Buffalo	454,112	42	1,067.00	425
San Francisco	448,502	46	1,850.00	242
Los Angeles.....	438,914	107.50	3,780.00	116
Milwaukee	417,054	25.6	922.00	452
Cincinnati	402,175	70	1,693.11	237
Newark	389,106	23.4	658.33†	590*
New Orleans	361,221	196	1,217	296
Washington	353,378	69.25	3,700	95
Minneapolis	343,466	53.25	3,685.98	93
Jersey City	293,921	20	370	794
Kansas City	281,911	60	2,591.75	108

†Including the reservations this is 3,050.17 acres.

*Reduced to 112 if the reservations outside the city limits are included. Newark pays 67% of cost of county parks.

Since the reservations are not within the city limits Newark's population per acre of park, 528, is large. When the acreage of reservations is added, as may properly be done, since Newark pays 67% of their cost and is within 5 miles of each, the population per acre is reduced to 112, which compares favorably with other large cities.

Plan No. 17 shows the areas served by the several parks. The two reservations are within reach of the entire city. The large parks effectively serve the entire

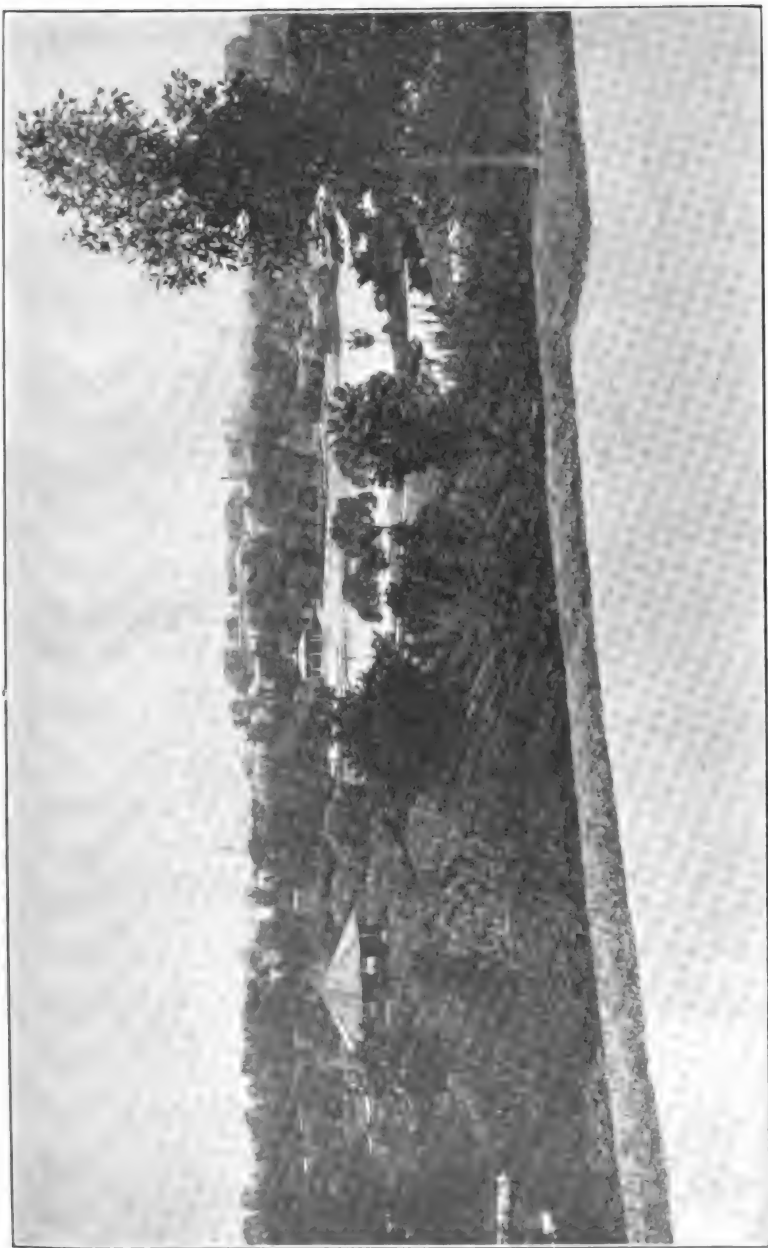


ILLUSTRATION No. 14.

BRANCH BROOK. A large park used annually by thousands of citizens. Its many picturesque walks and drives are fully appreciated. It was reclaimed from a small brook and much marsh land.



ILLUSTRATION No. 15.

WEEQUAHIC PARK. This is Newark's most recent and largest park. It contains 315 acres. It has a large lake for canoeing, fishing and skating, several tennis courts, a golf links and many other game fields.



ILLUSTRATION No. 16.

WEEQUAHIC PARK. Natural advantages have here been used successfully to create charming walks, drives, and ample opportunity for that association with the great out of doors, so much needed in large cities.



ILLUSTRATION No. 17.

EAGLE ROCK RESERVATION. A large tract of woodland, containing 400 acres on the summit of the Watchung Mountain, six miles from Newark. From a point in this reservation one looks down upon the homes of 8,000,000 people.

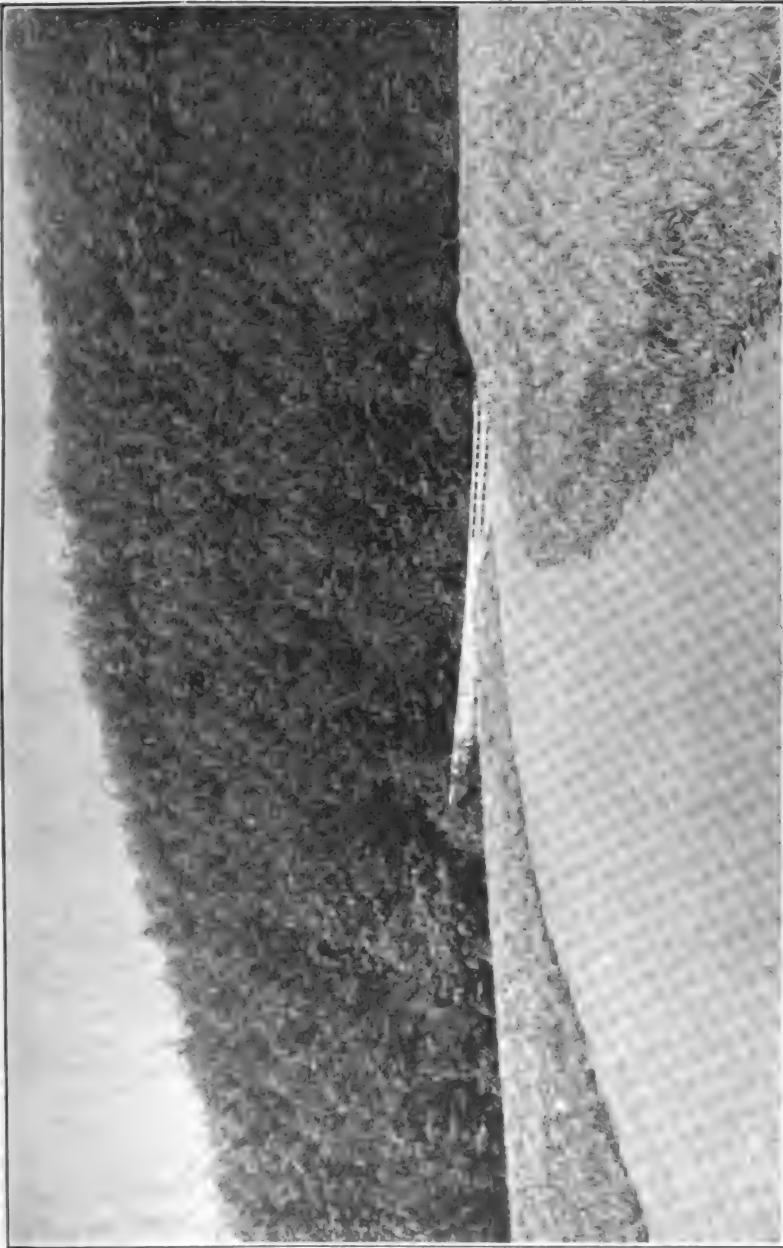


ILLUSTRATION No. 18.

SOUTH MOUNTAIN RESERVATION. 1,983 acres have been purchased by the Essex County Park Commission at the southern extremity of the Watchung Mountains. The natural beauties of this tract have largely been retained. Good roads and walks have been provided. The reservation is largely used and will prove to be invaluable with the increases in population soon to come in the metropolitan district.

city, excepting the meadow lands facing Newark Bay. About a third of the city's occupied area, however, has no neighborhood parks. Compare this plan with Plan No. 18, which shows the distribution of population, and note the lack of neighborhood parks in the thickly populated part of the hill district. There are few, also, in the Clinton Hill and Woodside sections.

A neighborhood park should contain at least 20 acres. West Side is an excellent example of this type. The effective area of a park depends largely upon its size. Under normal conditions a park of 20 acres would serve all who live within a radius of one mile. The population in districts not served by neighborhood parks is so large that three or more new ones should be added, either by city or county, near the following points:

South Orange Avenue, Jones Street, Springfield Avenue and Beacon Street.

Bank Street, Fairmount Avenue, Cabinet Street and Littleton Avenue.

Waverly Avenue, Bergen Street and Magnolia Street.

Hawthorne Avenue, Osborne Terrace and Yates Avenue.

Wecquahic Avenue, Pomona Avenue, Clinton Place and Maple Avenue.

Stuyvesant Avenue, Ocean Avenue, Norwood Street, Lyons Avenue and Brookdale Avenue.

It would be difficult to overestimate the good effect of the work of the Newark Shade Tree Commission on our streets. It has shown in its ten years of activity rare energy and foresight, and gives promise of still greater results in the near future.

The Shade Tree Commission maintains not only 66,000 street trees, but also 27 city parks. Notable among the latter are Military Park, Washington Park and Lincoln

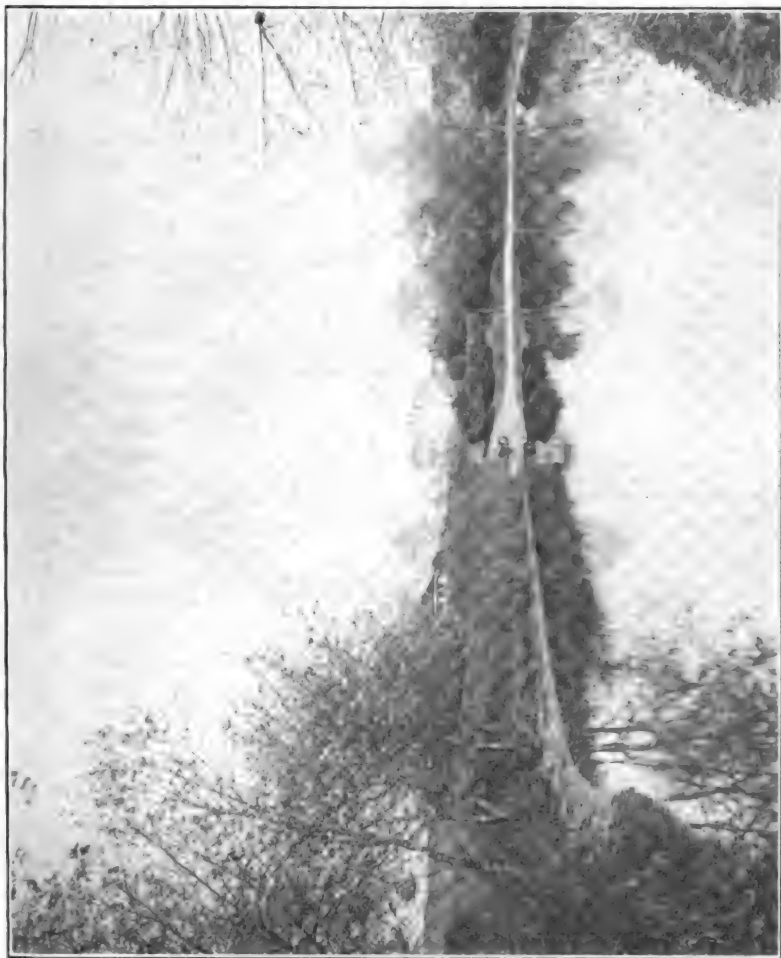


ILLUSTRATION No. 19.

WEST SIDE. A fine example of what a Neighborhood Park should be. An attractive spot is shown above. More parks like this are needed in the congested districts of Newark.

Park. These small breathing spots in the heart of the business district give opportunity for momentary relaxation and are restful to the eyes and minds of the thousands who daily pass them. Newark owes much to the wisdom of its forefathers for this legacy of parks. Few cities possess their like in business districts.

A much needed city park has recently been made possible at the junction of Clinton and Elizabeth Avenues, by a bequest of the late Miss Alice W. Hayes. Plan No. 21 shows a suggested treatment of this property. Several much-used streets terminate here, making it an increasingly important intersection. The plan provides for a circular plaza with a central shaft or fountain which may be seen from all approaches. American cities are sadly lacking in spacious plazas and Newark is no exception to this rule. Such a treatment of this land would greatly increase the value of surrounding property.

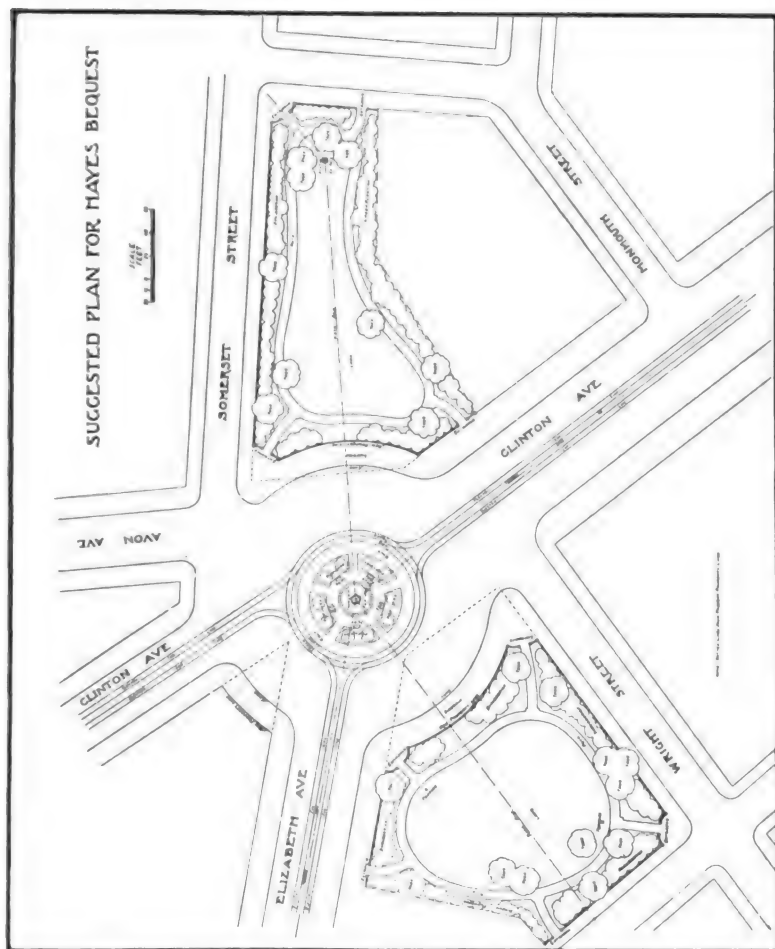
On the Passaic River, north of Mt. Pleasant Cemetery, Newark has an unusual opportunity for a water front park. Boston, Chicago, Cleveland and other cities have already realized the value of water fronts of this kind and are putting much money into their development. Plan No. 19 shows the proposed water front park extending north from Mt. Pleasant Cemetery and including the beautiful valley of Second River. Early acquisition of this natural area is important.

Parkways

The city now controls eight and a half miles of modest parkways, while approximately one mile of Park Avenue is controlled by the county. A parkway should be a wide thoroughfare from which commercial vehicles are excluded. It is difficult to say how far a system of parkways can wisely be extended, so much important development being already under way. We greatly need,

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PLAN No. 21.

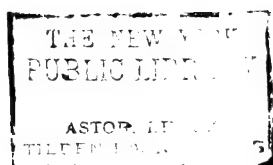
Two large properties at the intersection of Clinton and Elizabeth Avenues were bequeathed to the city of Newark in the will of the late Miss Alice W. Hayes, to be used for park purposes. These properties, if planned after the manner suggested, will make here an extremely interesting and attractive street intersection, now one of the busiest in Newark.

however, a parkway or boulevard from the center of the city to Branch Brook Park. We should have, also, a broad thoroughfare between Branch Brook and Weequahic Parks. Plans for such a connection and for an extension from Branch Brook, and from Weequahic, west to make part of a county system, are described below.

Plan No. 20 shows the proposed boulevard approach to Branch Brook Park. The route follows existing streets, save in one block from Market Street to High Street, where a diagonal street is shown. The new route leaves Market Street, at the same angle as does Springfield Avenue, making a triangular plot north of Market Street, upon which could be built the new Hall of Records to correspond with the Court House opposite. By following High Street, Sussex Avenue and Nesbitt Street, expense need be incurred only for widening these streets and for securing properties between Market Street and High Street on the diagonal. To prevent heavy expenditures at one time the boulevard could be constructed in two or three sections. This park now has no suitable approach, and the proposed plan would provide one without undue expense.



PLAN No. 20. There is no proper approach to Branch Brook Park. A boulevard such as shown would meet all requirements and prove less costly than other routes. Its course is through poorly developed districts which would be greatly benefited by it. See notes on this under Parks in Part II.



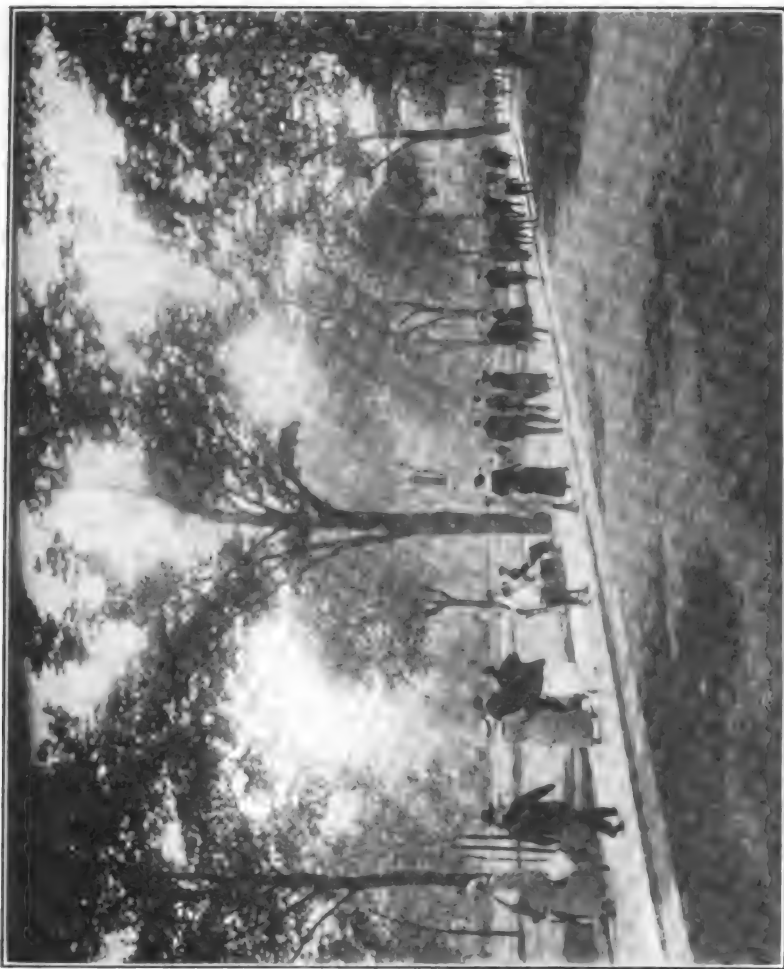


ILLUSTRATION No. 20.

MILITARY PARK. The wisdom of the forefathers is well shown in this beautiful bit of spacious lawn, trees, shrubs and flowers situated in the very heart of the business district. This is a priceless possession.



ILLUSTRATION No. 21.

LINCOLN PARK. A further example of the need and the value of small parks close to the center of the city. It is the center of one Newark's best residential districts. The presence of the park has unquestionably added greatly to the value of the land about it.



ILLUSTRATION No. 22.

PHILLIPS PARK. A small irregular plot in a residence section wisely given to park purposes. If this ground had been used for a commercial structure the value of surrounding property would have been far less.



ILLUSTRATION No. 23.

HELLER PARKWAY, maintained by the city in one of the more desirable residential sections, is a forceful argument for more such streets. Their value can hardly be overestimated.

RECREATION

Plan No. 17 shows that part of the city adequately served by playgrounds open the year around. It shows a serious lack in Clinton Hill, Vailsburg and Roseville. A complete recreation program, however, cannot be confined to playgrounds, no matter how numerous, well equipped or well supervised they may be. A previous report of this Commission considers the needs of a public recreation system for Newark and recommends the formation of a body in which the recreation work now carried on by the Park Commission, the Board of Education and the Playground Commission shall be centralized. It further recommends that this body have power to "manage, direct and care for whatever the city may provide in playgrounds, playfields, indoor recreation centers, debating clubs, gymnasiums, public baths, and to make the necessary inspections as provided by the ordinances of the city for maintaining a wholesome and moral quality of all forms of commercial recreation for which license is required of the city."

For several years appropriations have been made to promote good recreation facilities in Newark, and though good results may be seen in attendance and enthusiasm at the playgrounds, the method of accomplishment is faulty.

Two things are necessary to solve this problem of public recreation.

First, there should be a central authority with broad powers, as outlined above, to supervise experts. This calls for no expenditure of money, but merely proper attention on the part of those charged with the administration of public affairs. Here is one of the crying needs of Newark, a field of municipal activity in which cities and towns all about us are making rapid progress.

Second, a working plan for this central authority should be adopted. This plan should provide for the expansion of the playground system, the establishment of neighborhood recreation centers, gymnasiums, public baths, both indoor and outdoor, and other activities essential to city-wide recreation.

Churches, societies and commercial and industrial organizations provide recreation facilities in their respective fields; but the conditions of city life compel the city to furnish such wholesome and beneficial diversions as cannot be had otherwise. More and more do cities accept their paternal responsibility as guardians of the physical and moral well-being of their citizens, and more and more plainly is it demonstrated that recreation is essential for the adult as well as for the child.

The City Plan is concerned with recreation because it cannot be fully carried out without a settled policy of municipal recreation work; and especially because a City Plan is not complete unless its parks, playfields, playgrounds and baths are ample in number and size and wisely placed.

When the use of the Passaic River as an open sewer is given up, much of its original beauty will probably be restored. This change will of itself greatly extend and improve our recreation facilities. A park along the river north of Mt. Pleasant Cemetery has already been suggested. This park should give us what we sadly lack—an opportunity for outdoor bathing. Such opportunity is now lacking to nearly all our people of moderate means. With the purification of the river there will come naturally two bathing resorts, one in the Second River Park, and one on the river front near the Plank Road. We should also have public boathouses, one at the foot of Bridge Street and one at Jackson Street.

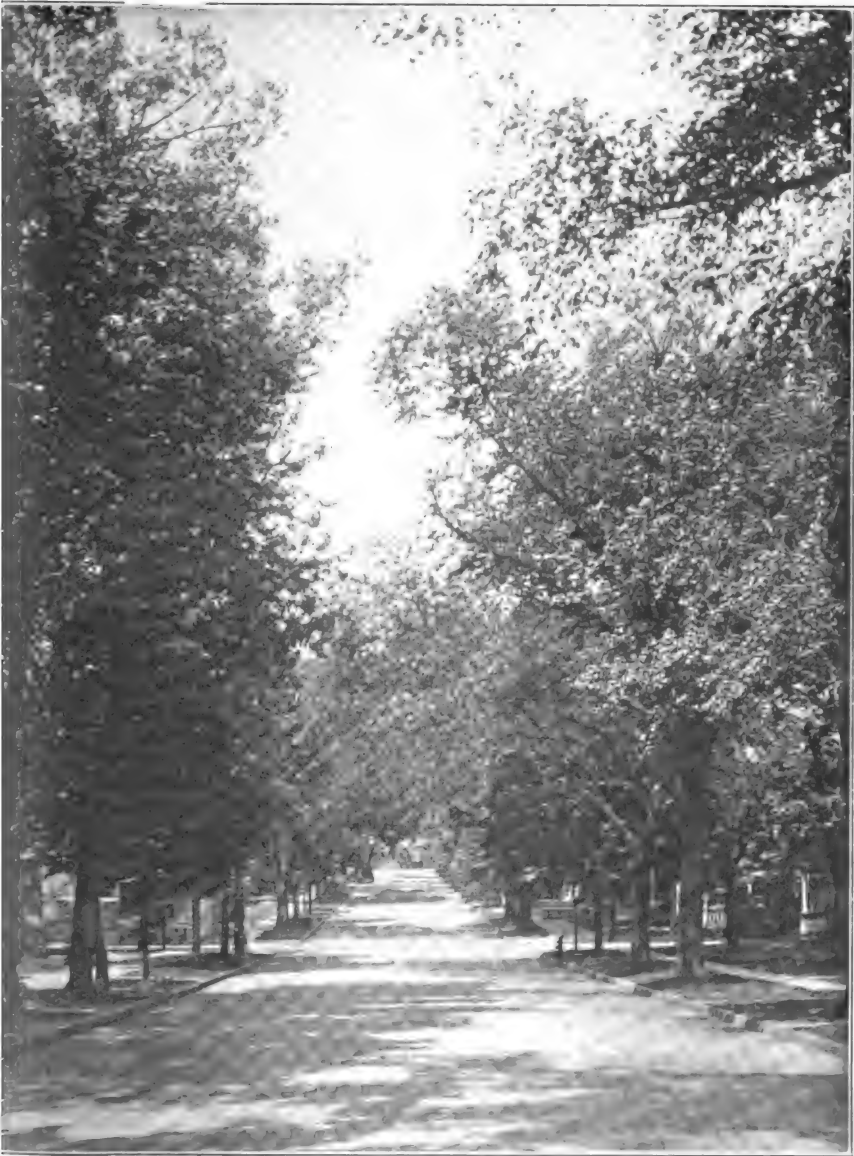


ILLUSTRATION No. 24.

These maples and elms, planted some thirty years ago on Third Avenue, well show what can be done in ordinary residential streets. There are many streets like this in Newark.

Where neighborhood parks are added to as suggested, provision will surely be made for playgrounds, playfields and a large athletic field for football, baseball, tennis, etc. Aside from the parks there is but one large athletic field in Newark at present and this is so distant from the center of population movement that the number of persons it serves is small in proportion to its size.

The dance hall is an important feature of public recreation. The evils of the private dance hall, and the difficulties met in regulating public dance halls are well known.

Newark needs several municipal dance halls distributed throughout the city according to the demand.



ILLUSTRATION No. 25.

The Valley of the Second River is naturally fitted to form a public park and driveway, as the illustration above shows. No time should be lost in adding this area to the present County park system.



PLAN No. 22.

**The Free Public Library and proposed new Museum Building
as seen from the new Bridge Street.**

(Ralph Harrington Deane, Architect.)

GROUPING OF PUBLIC BUILDINGS

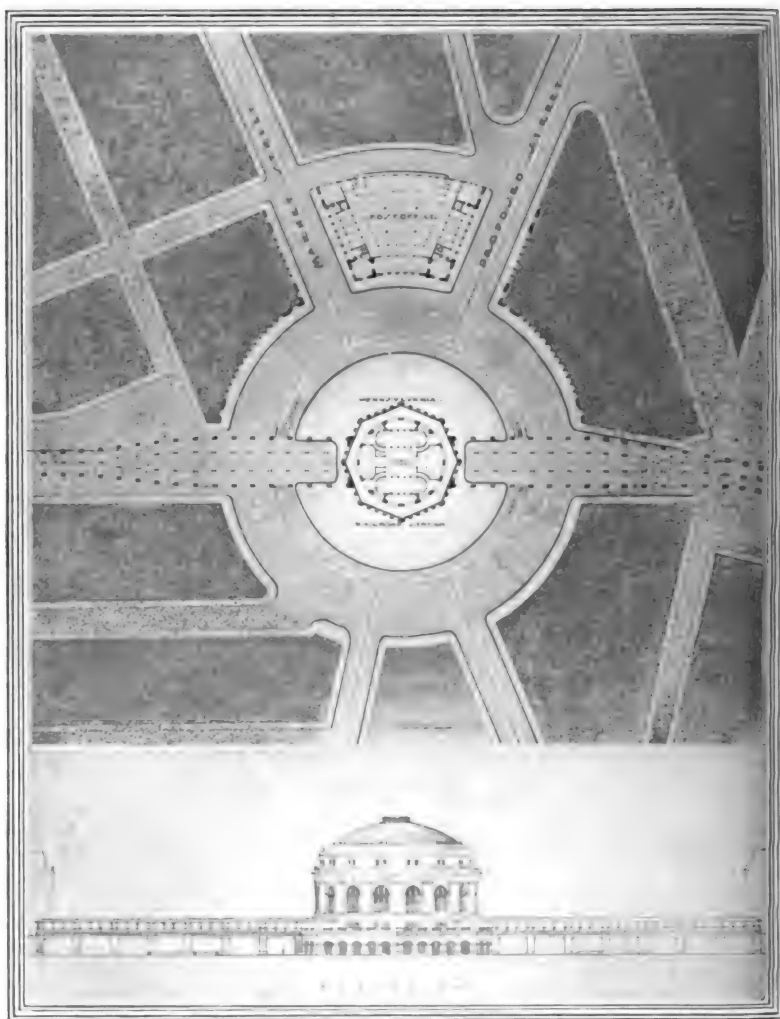
Public buildings so designed and located as best to fulfill the purposes for which they are built are not common in Newark or elsewhere in America.

Site planning is particularly lacking in American cities. For example, the Court House, which is, perhaps, Newark's most imposing building, is placed on a good elevation and has the open space about it that the style of its architecture demands; but the approach is imperfect and the contrast of surrounding buildings is unpleasant. The modern conveniences which have superseded the market places, open forums and plazas of many of the older European cities, have, as they have come, pushed aside their attendant advantages. A group plan, a monumental structure, or even a large district in which the general design and arrangement are good, is occasionally found in American cities. But such examples only serve to accentuate the general lack of thoughtful treatment. This lack of good design is particularly noticeable at main street intersections.

While a civic center would add much to the appearance of Newark, its construction would be very expensive. Many improvements more immediately useful must be made before a "civic center" can be wisely considered in Newark. For the present, the city can best improve its conditions by so placing its public buildings as to make them of the greatest practical use, and harmonious with their surroundings.

However, the phrase "City Plan" means primarily a "Civic Center" to so many of our citizens that, while we have declined on principle to consider very seriously or at great length this minor aspect of our work in any of our reports, we add here a few suggestions upon it.

A natural place for a civic center is the intersection of Market Street, Springfield Avenue and the proposed



PLAN No. 23.

**SUGGESTED IRONBOUND PLAZA on Market Street with new
Pennsylvania Station in center.**

(Bigelow & Tuttle, Architects.)



PLAN No. 24.

View across proposed "Ironbound Plaza" where the Pennsylvania crosses Market Street—Diagonal Street to the right, Market Street to the left and new postoffice facing the plaza between the two.

(Bigelow & Tuttle, Architects.)

boulevard to Branch Brook Park. The value of a civic center lies not only in the design of buildings, the harmonies of size, design and color, and the general effect; but also in the impression it gives as of a natural focal point about which the city shapes itself. Much of the effectiveness of public buildings is lost if they are scattered without plan and are placed upon narrow streets where they appear to disadvantage.

It is probable that there will soon be built with public funds a new Post Office, a Hall of Records in connection with the present Court House, an Auditorium and Museum and, possibly, an administration building for the Board of Education. Semi-public structures which may soon be erected are, two railroad terminals and a Board of Trade building. All these should be placed in accordance with a prearranged plan.

The proposed new post office, for instance, may well be located in Market Street at the intersection of Central Avenue extended. Here the Pennsylvania Railroad, according to statements already published, proposes to erect a new station. The accompanying plans show how certain suggested changes here would improve the impression which thousands of strangers daily receive at this important approach to the city. This location for the post office has the advantage of being near both the business center and the most important railway mail service station. Chute service with both the Pennsylvania Railroad and the Central Railroad of New Jersey could here be provided, thus eliminating present haulage. The plan is suggestive only. A detailed study may show that it is wiser to place the station at the side of the Plaza than in the center. In any event, here is an important street intersection where traffic is greatly increasing and will continue to increase. More street room will soon be needed. A circular plaza with the station in the center suggests itself because of the possibilities it offers for



ILLUSTRATION No. 26.

ESSEX COUNTY COURT HOUSE. This public building, excellent in design, monumental in character and fairly well situated, would appear to much better advantage if surrounded by structures more in keeping with its character and dignity. It may well be made the nucleus of a group of public structures.

adequate traffic distribution, combined with pleasing architectural effect. Newark lacks the spacious plaza so commonly seen in Europe and found in a few American cities. Here is an opportunity to make a notable public improvement, under advantageous conditions which will probably not repeat themselves for years to come.

With the Essex County Court House as a nucleus an admirable civic center could be made, as suggested above, with the proposed boulevard approach to Branch Brook Park as a beginning. County activities are reported to have outgrown the Court House, and a new building is needed, perhaps in the nature of a Hall of Records. As the Court House is off the center line of the street it does not show to advantage from lower Market Street or the Four Corners. If a new building is to be erected, it is recommended that one similar in design to the Court House be built north of Market Street, on a triangle formed by Market Street, High Street and the new boulevard. The two buildings could be connected by a monumental arch as shown in Plan No. 20.

Newark needs a public Auditorium and Museum. Plan No. 21 shows how the building could be placed in relation to the Public Library building. This arrangement has the advantage of bringing together two buildings of related interests at a point which offers itself naturally to grouping of public structures. The library stands on Washington Park at the head of Bridge Street, the Gateway of Newark. There are already several public buildings, the Y. W. C. A., the Library and two large churches on streets facing the park. With the improvements suggested for Bridge Street a decided increase in property values in this vicinity may be looked for.

A new Board of Trade building has been advocated, which might, if placed at the southeast corner of Broad

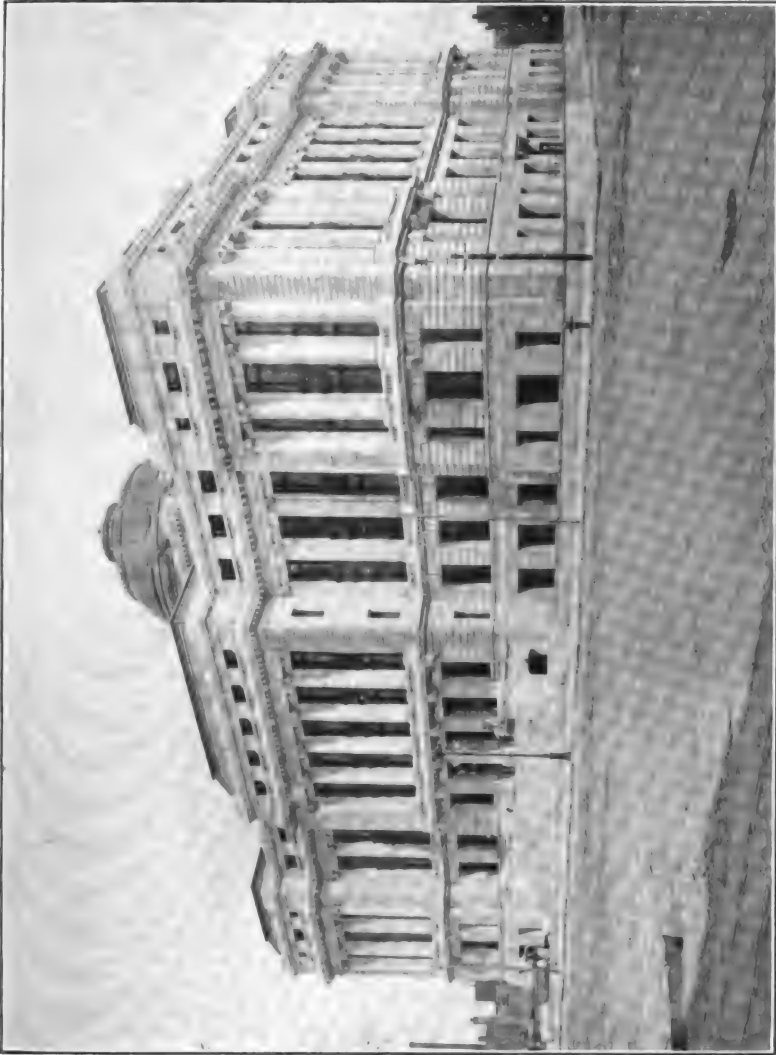


ILLUSTRATION No. 27.

The public buildings of Newark are well designed. The City Hall, here shown, is even more attractive within than it is without.

and Bridge Streets, become part of this center. Should property values prove prohibitive for these suggestions the Museum might be placed on High Street, between Bank Street and Academy Street, and the Board of Trade building on Market Street, between Plane Street and the new boulevard.

The suggested administration building for the Board of Education could also be placed on Washington Place or Washington Street, facing the Park, and forming part of this center.



ILLUSTRATION No. 28.

The approaches to a city, particularly railroad stations and their surroundings, should be in keeping with its size and dignity. The railroad stations of Newark are not what they should be. That of the Lehigh Valley, shown above, at the apex of Weequahic Park is the forerunner, it is hoped, of several more like structures.



ILLUSTRATION No. 29.

MARKET STREET, opposite Pennsylvania Railroad Station. The unsightly structures at this, Newark's most important railroad station, greatly discredit us in the minds of those who here gain their first impression of our city. The extension of Central Avenue will destroy several of these structures. A new railroad station here could well be made the center of a plaza upon which could be located the new postoffice and other buildings in keeping with its design. The importance of this improvement cannot be overestimated. See plan No. 21 and 22.

APPEARANCE OF THE CITY STREETS AND PUBLIC PLACES

More fortunate than the average American city, perhaps, in the number of broad avenues, tree-shaded streets and parks, Newark has, nevertheless, a most ungracious rigidity of plan. That fascinating irregularity and picturesqueness of streets that we enjoy so much in the towns and even the larger cities of Europe is rarely found here, nor, on the other hand, do we find here anything that recalls the profound impression made by the great monumental avenues and squares of Paris or Berlin.

The practical plan appeals to the reason, the beautiful plan to the heart. The former makes a man passively contented and comfortable, the latter makes him actively proud of his city. It arouses an ardent patriotism that must express itself in deeds. The charming city is loved by the man who lives there. Practicalness without beauty leaves him cold. The complete city must be beautiful. Our better natures demand beauty. Unconsciously we want pleasing things for the eye to rest upon all about us. The soul is starved without them. Of course we can live without beauty and we often do; but just in so far as we do, the fullness of our lives is constricted and dwarfed.

Beauty we must have. In so far as the city has failed to consider attractiveness of appearance it has failed in its duty to its citizens. Now beauty is not just something that is applied to the surface after the utilitarian structure is finished. Far from it. It goes back to the very beginning. Beauty is not tricks of attached ornament. It is not frills and furbelows and pretty trimmings. It is rather suitability of form to function, of material to its use. It is pleasingness of form, proportion, mass, color, texture, scale; all those things that go into the make-up of good design. If the problem is a bridge, for example, it starts

with the first calculations of strength. Of two types of structure possible in a given site, at the same cost, one often is good looking and the other not. Then, as the calculations progress, a little change of line here, in the spacing of the members there, may often make the world-wide difference between the bridge that you look at with satisfaction and the one that leaves you cold. Such is beauty in all matters of design. It does not mean adding to the cost of the structure. On the contrary, the simplifying demanded in the best designing often means a saving of useless cost. Beauty is obtained by making the useful structure look its part in a simple, straightforward way.

When we come down to the actual work of improving the appearance of a city we find that there are three ways of getting at it; first, by making everything clean and neat; second, by doing away with sheer unnecessary ugliness; and third, by considering beauty and simplicity of design as well as utility in everything that goes into the physical improvement of the city.

Cleanliness and Neatness

Streets. Cleanliness and tidiness in the streets mean not only avoiding litter and unkemptness, and flushing and sweeping streets, trimming trees and shrubs, weeding lawns and flower beds. It means, also, laying street and sidewalk pavements and surfacing that can be kept clean readily, that are smooth and even, and will stay so. What looks slacker than a wobbly street or a humped-up sidewalk? Tidiness is the first step in beauty.

Within the past fifteen or twenty years many hundreds of thousands of dollars have been spent here on new pavements, with the result that Newark compares favorably with any city in this country in extent and character of well-paved streets. Smooth pavements—*asphalt, brick and wood block*—have done much to improve general appearance and reduce objectionable



ILLUSTRATION No. 30.

BRIDGE STREET, opposite Free Public Library. This has been called the Gateway of Newark. It is one of the two possible routes to Jersey City and New York. Its appearance is not what it should be. The removal of the poles and wires is urged. Widening and parking of this street to the Passaic, two blocks distant, is recommended.

noises and dust. Cleaning is done regularly, though not often, and more flushing could advantageously be done. The character of traffic largely determines the type of pavement and the advent of the automobile and motor truck has created a greater demand for smooth pavements. The smooth pavement adds unquestionably to the appearance of a street, especially when well repaired and well cleaned. Receptacles for refuse are used in some parts of the city. More of these are urged. Not only do they aid materially in keeping much refuse from being thrown into the roadway, but their very presence is a reminder of cleanliness and order.

Sidewalks. Except in certain tract developments there is no attempt to construct sidewalks after any particular form. Cement walks of varying width and color and flagstones of all descriptions are found adjoining one another in hopeless confusion. This is true even in the business district and is most noticeable to one visiting Newark for the first time. A standard specification should be adopted and followed, so far as possible. Many cities are doing this with most satisfactory results. Most objectionable of all sidewalks is that laid without foundation in certain new sections, with cracking, buckling and disintegration soon following.

Sidewalk Encroachments. What most needs to be done, particularly in the business district, is the removal of encroachments, such as stoops, steps, platforms, bay windows, cellar doors, cellar or basement entrances, posts, etc. These are not only unsightly and disfiguring to the thoroughfare, but also occupy sidewalk width which could otherwise be used to advantage. These encroachments are particularly noticeable on Mulberry, Washington and Market Streets, and a few other large thoroughfares. Particularly undesirable are coverings or canopies erected at the entrance of semi-public buildings.

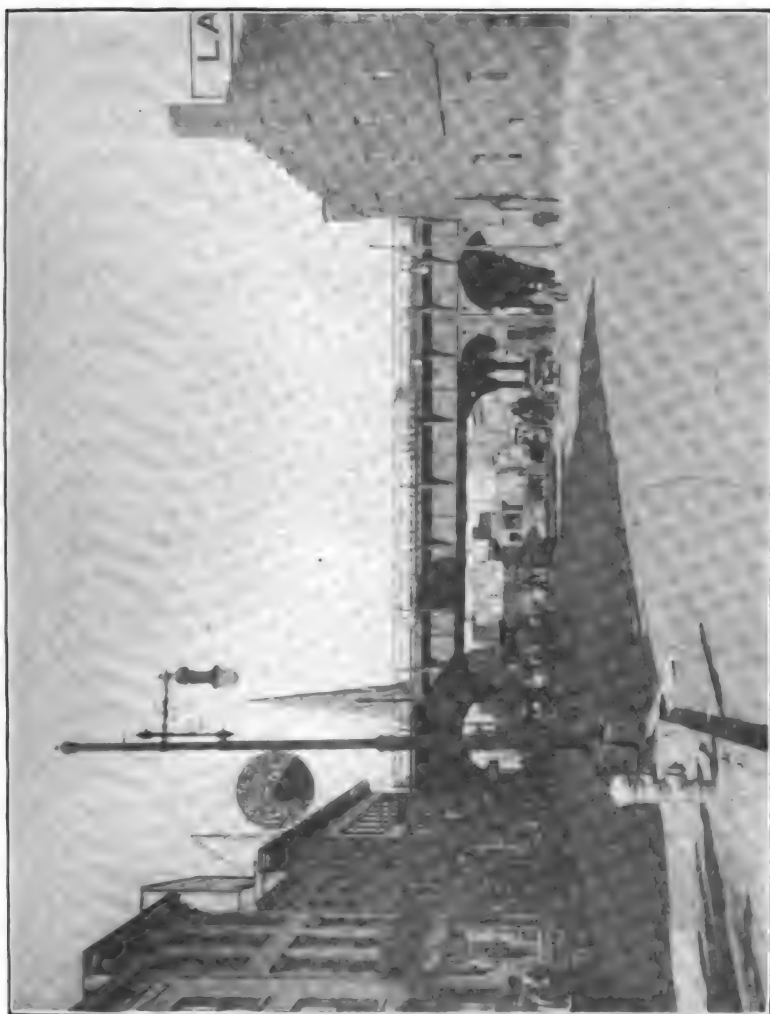


ILLUSTRATION No. 31.

LACKAWANNA BRIDGE over Broad Street. This is characteristic of all similar structures in the city. More structures like this should not be permitted. See illustration No. 32.

of which the best illustration is that of the Newark Theatre on Market Street. While their appearance may not be undesirable at the time of their construction, their unsightliness becomes in time increasingly evident with the deterioration of their buildings. These should be prohibited.

Smoke. Nor does cleanliness stop here. The one thing that works most strongly against it in our middle western cities is smoke. Smoke is the great curse of all cities where soft coal is used unrestrictedly. Rigid enforcement of a good smoke ordinance has made Newark one of the cleanest of cities and exceptionally so for a large industrial center. There is to-day no necessity for a smoke problem in any city in view of the many modern preventive appliances. It is now a well-known fact that smoke means waste. Newark must keep up the good work, for the results form one of her greatest assets.

Suppression of Ugliness

Removal of Poles and Wires. Widespread use of the telephone and of electricity has resulted in an enormous increase of wires, particularly upon the larger thoroughfares. A multiplicity of wires and poles is extremely detrimental to the aspect of a street. Much commendable work in removing them has recently been undertaken, though it is only a beginning. In several streets, notably Broad Street, Clinton Avenue and Orange Street, the wires have been buried, numerous poles removed and combination poles for trolley wires and street lights erected. Not alone is the appearance of the street improved through the burial of wires, but the menace of fire and shock also. Illustration No. 30 shows the conditions which will result from concentration of a number of wires upon one street. Contrast this with Illustration No. 8, where a similar condition was found a few years ago.



ILLUSTRATION No. 32.

LACKAWANNA BRIDGE over South Orange Avenue in South Orange. This adds greatly to the appearance of the street. A design like this could well be followed in new bridges over the streets of Newark.

Controlling Advertising Signs and Billboards. In accordance with a suggestion made by this Commission a new sign ordinance has been passed. This prohibits the erection of signs more than one foot in thickness or projecting within a height of 10 feet above the sidewalks or more than 6 feet from the building line. Other restrictions are contained in this ordinance, with regard to the use of non-combustible material, proper bracing and the percentage of surface subject to wind pressure, etc. This ordinance has done much to improve the aspect of the main thoroughfares of the city. Its enforcement was very difficult, for it affected signs already constructed, as well as new signs; but its continual enforcement will result in very much improved appearance of the city streets.

The control of billboards is very important, but more difficult, because these are on private property. Yet nothing detracts more from the appearance of the city than the constant cropping up of garish billboards among charming homes, by dignified public buildings or in a delightful landscape. Many other cities are doing more effective work than Newark in controlling this nuisance.

Building Districts and Restrictions. The regulation and restriction of the height, area and use of buildings is discussed below, but not from the standpoint of beauty. The courts so far do not give much recognition to beauty as a valid reason for the exercise of the police power in restricting private property.

The fact remains, however, that the cities where height is restricted are usually much more attractive in appearance than those that are not. Orderliness is vastly to be preferred to scragginess in a self-respecting city. To be sure, Newark now has a height limit, but it is so great—200 feet—as to be virtually useless. Scientific districting that will be satisfactory from the standpoint of



ILLUSTRATION No. 33.

PROJECTING SIGNS and sidewalk encroachments were a particularly noticeable evil in Newark until very recently. The illustration shows one of many instances where signs projected over the entire width of the sidewalk. See illustration No. 34.

health, safety, morals, general welfare, and also good business, will undoubtedly bring lower height limits for most of the city and greatly improve its general appearance.

Creating of Beauty

Street Lighting. The streets of Newark are lighted by a private corporation which has recently entered into a new five-year contract with the city. In 1914 there were in use a total of 5,376 lamps, of which 2,895 were electric arcs, 132 were flaming arcs, 119 were Mazda lamps, 204 were electric incandescent and 2,026 were gas Welsbach. Under the terms of the new contract a new type of lamp, the General Electric nitrogen type C Mazda of 400, 600 and 1,000 candle power, will replace the present carbon arcs.

In quality of service and type of lighting fixtures Newark is as well advanced as other cities of its class. Several of its main thoroughfares, Broad Street and Market Street particularly, are notable for their excellent lighting. The city has in use none of the old style gas lamps, and soon will use the latest nitrogen lamp. The light fixtures in the city parks are especially attractive. In the installation of the new system along main thoroughfares and in the parks, underground wires have been laid. This procedure should be followed on all streets where changes are made. The combination poles for lighting fixtures and trolley wires upon the main thoroughfares are well designed. Gradual replacement of the electric arc should result not only in the removal of wires, but also in the installation of a more sightly pole than that of wood now commonly used.

Bridges, Viaducts and Quays. There is a decided lack of good bridge design in Newark save for the bridges in county parks. Those which support overhead railroads (see illustration No. 31), as well as those which cross the Passaic River, are designed solely from an engineering



ILLUSTRATION No. 34.

View taken from approximately the same position as in illustration No. 33. Note how all signs have been reconstructed in conformity with the new sign ordinance prepared by this Commission. Some sidewalk encroachments have also been removed, though much remains to be done to entirely remove this nuisance.

standpoint with no thought of their appearance. It is no difficult or expensive task to make a bridge beautiful as well as useful. Large bridges are particularly conspicuous and should be monumental in character. Small bridges should be simple and pleasing, never noticeably ugly. Eventually a bridge of a monumental character should be erected over the Passaic River at Bridge Street. Illustration No. 32 is an excellent example of what could be made of such bridges as that of the D., L. and W. Railroad on Broad Street, the Pennsylvania Railroad on Market Street, the Lehigh Valley Railroad on Frelinghuysen Avenue, and several others.

Location and Design of Statues, Memorials, Works of Art, etc. All questions concerning the location and design of statues, memorials and other works of art are first submitted to this Commission for recommendation and report. Under the provision of the law the design and location of one monument has come before this Commission, and while the design was approved, the location was changed to considerable advantage. Newark has no Art Commission and the City Plan Commission can do effective work along this line until such a commission is created. Every city takes pride in its public works of art. It has a right to demand that they be well placed and in good surroundings. Except for this Commission, the City has no body that is responsible for this work.

Conclusion

To make a city cleaner and neater and to substitute beauty for ugliness is to enhance the value of both public and private property. As to public property, this work can be easily controlled. But the City authorities can be expected to act only on the insistence of the general public. Unfortunately, however, no matter how

careful a city may be about structures erected on public property, the general effect of street and open places may be spoiled by ugliness in surrounding structures and private property. Billboards, signs, ugly, garish or unkempt buildings, buildings out of repair, untidy yards and vacant lots—all may counteract whatever the city may do to make public property attractive. The only way to keep the city neat and to make it look as though it were really self-respecting, is for all citizens to co-operate in insisting on private as well as public neatness and attention to good design.

When a stranger visits a city, the lasting impression which he carries away with him is usually his first impression. If the city is neat and attractive his first thought about it is apt to be enthusiastically favorable; if the city is unkempt and ugly he is glad to leave it, never to return. He is far more likely to come and settle down in an attractive city than he is in an unattractive one, and the citizens take an interest in and are proud of their city just in proportion to its attractiveness. It is the duty of our city to be attractive.

YARD AND LOT CULTIVATION

Town building has been called an art as well as a science. The movement for better cities in which to live and work has led to a realization of the value of nature's handiwork. As city dwellers we long failed to appreciate what nature can do even for the close-built city. Our attention has been too much confined to business and construction and we have thought little of the delicate finishing touches which are given by glimpses of shrubs and flowers. Garden cities and garden suburbs are now common, private enterprise having here outdone public effort, to its own advantage and with added pleasure to thousands of residents. While not foremost in the great procession of cities striving for greater charm about the home and in the street, Newark is by no means a laggard in this respect.

Its numerous and attractive parks, its many well kept shade trees and its attractive lawns and gardens, bear evidence to this fact. The unsightly, rubbish-filled vacant lot is the exception rather than the rule; yet each unsightly spot, and there are still many of them, points the moral of an uncompleted task. To transform these is not difficult, for in this climate nature needs only a little encouragement to lend a willing hand.

An unusual opportunity for stimulating interest in the appearance of homes, grounds and open spaces presents itself in the 250th Anniversary of the founding of Newark in the coming year. A start was made in the season just passed. Fully 1,000 persons, amateurs and experienced gardeners, children and adults, native Americans and those of foreign parentage, were found among the contestants for the prize awards of \$250 which were distributed at the close of the season. The value of such work is found not only in the immediate financial return—a crop valued at \$2,000 was raised on the 10 acres of a

few vacant lots—but also in its educative influence as a good example open to the view of every passer by.

There are about 500 acres of tillable land in the city limits. A large part of this, it is hoped, will be under cultivation in 1916. Much that is unsightly will thus be lost to view. Where the land is unsuited to gardening flowers and vines can be grown on the street ends to hide the barren ground beyond. Newark is comparatively free from the front yard fence so common in some cities. The result is long vistas along our streets of green lawns with many shrubs and flower beds, in place of uneven lines of variegated pickets and posts. Corporations as well as individuals have in some parts of the city greatly improved the surroundings of their buildings.

In the business districts which are now devoid of trees the owners or occupants of buildings could, for 1916 at least, furnish window boxes. There are good precedents for such work. It entails little expense and gives astonishingly beautiful results. Public buildings should be similarly decorated. Any citizen who last summer saw the Public Library with its window boxes in full bloom could with difficulty restrain the impulse to cry out his approval.

With our many spacious and well kept lawns, with vacant lots planted with vegetables and flowers, with luxuriant gardens, window boxes in homes, public buildings and business blocks along the main thoroughfares, the thousands of visitors in 1916 will gain of Newark the right impression, that it is a city which cares for its own welfare and beauty and wishes to make it a desirable place in which to spend one's life.



ILLUSTRATION No. 35.

Cellar dwelling of three rooms. When inspected this tenement was overcrowded and had defective drainage. Cellar dwellings are prejudicial to health of occupants and their occupancy should be prevented in old buildings as well as new.

PART III.

HOUSING, PUBLIC CONTROL OF THE DEVELOPMENT OF PRIVATE PROPERTY, METROPOLITAN PLAN- NING, LAND SUBDIVISIONS

City planning in America has hardly yet begun its work. It is an untried field in large cities where it is most needed. Garden suburbs, model districts with suitable homes for working people, good transportation and proper street lay out, parks, recreation,—all these fall within the province of city planning. It not only beautifies the city and makes it more inviting for both businesses and homes; it must even seek out those who through ignorance and poverty are unable to improve their own manner of living of their own accord and compel them to such degree of observance of the rules of individual and social hygiene as will make them worthy and desirable additions to the city's population. Briefly, the ultimate test of city planning in this country is its success in adequately meeting the congestion problem.

The final solution of the congestion problem lies far in the future, for much that has thus far been done, experimentally, must be undone at great cost. The advent of city planning marks an epoch; it is the first intelligent attempt to approach one of the great urban problems of all time,—how to enable all to find, how, in fact, to compel all to find wholesome living conditions, conditions which will shorten no lives, will promote health, will encourage happy and helpful social relations and will give honest toil, talent and genius full opportunity to win their full rewards.

The principles of city planning in this respect are daily becoming more thoroughly understood and are rapidly being applied to new developments. In America the attempt to attain the desired ends through the estab-

lishment and enforcement of building laws has met with disastrous results in too many instances. The more important methods by which American cities deal with the housing problem are: (1) stringent application of housing regulations, and (2) control of the development of private property through restriction of the height, area and use of buildings and percentage of lot covered by them.

A discussion of these, with special application to Newark, follows.

HOUSING*

Though fortunate in having few of such evils as extreme congestion of buildings on lots, narrow streets bordered by high tenements, public alleys, poorly lighted and ventilated alley houses, privy vaults and surface drainage, and the use of one room apartments for whole families, Newark suffers to-day from the following unhealthful conditions in residence quarters:

Dark rooms and dark halls.

Basement and cellar dwellings.

A few privy vaults, cesspools and yard hydrants.

Streets with no sewers.

Stables situated near residences.

Uncovered garbage receptacles and dumping of garbage for fill.

Poor maintenance of buildings.

Uncleanly habits of tenants.

Over-crowding of rooms.

Serious fire risk.

Recommended Changes in the Tenement House Law

To eliminate the more serious evils the following changes in the State Tenement House Law are suggested:

Definition of Tenement House. Article I., Section 1, Paragraph 2, should be changed to read: "A tenement house is any house or building or portion thereof which is rented, leased, let or hired out, to be occupied or is occupied, or is intended, arranged or designed to be occupied as the home or residence of two or more families, living independently of each other; and this definition includes apartment houses and flat houses, but does not include hotels. Dwelling houses occupied or intended to be occupied as homes or residences of one family or more, if built in rows, or with the side walls less than one

*A previous report of the City Plan Commission deals at length with this problem.

foot distant from the nearest wall of another building; or if the halls, stairways, yards, cellar, water supply, water-closets, or privies, or some of them are used in common, shall be deemed to be tenement houses and shall be subject to all provisions of all laws pertaining thereto."

Percentage of Lot Covered. Article III., Section 1, Paragraph 68, should be modified to prevent any tenement dwelling house hereafter erected from occupying, either alone or with other buildings, more than eighty per cent. of a corner lot or more than sixty per cent. of an interior lot.

Height. Article III., Section 1, Paragraph 90, permits houses to be erected to a height equal to one and a half times the width of the widest street on which they stand. The result is darkened rooms and lack of sun on lower floors. A law should prohibit tenement houses from exceeding in height the width of the widest street on which they stand.

Yards. Most apartment houses in Newark now have sufficient light and air only because adjoining lots are free of tall buildings. If any part of Newark should be built up compactly with high apartment houses, in conformity with the minimum provisions of the present law, the interiors of such blocks would suffer from entirely inadequate ventilation and light. To protect the city from such a contingency new tenement houses of three stories should not be erected within 25 feet of the rear lot line, or within 15 feet of a corner lot, and the depth of the yard should be increased by five feet for every additional story.

Courts. Article III., Section 1, Paragraphs 96 to 108, are not so worded as to compel proper light and ventilation in all rooms. The following is suggested as a wise minimum provision:



ILLUSTRATION No 36.

A street of homes. Practically every house on the street is owned by its occupant. Premises are well kept and many of the gardens are peculiarly attractive. It is still possible for the workman to live in a single house of from five to six rooms on the cheaper land on the outskirts of the city. This is the most desirable kind of housing, for it combines privacy, responsibility, pride in the home, family integrity, beauty of premises and an environment for the bringing up of infants and children which is healthful and free from moral contamination.

"The minimum width of a court for a two-story building shall be ten feet; for a three-story building, twelve feet; for a four-story building, fourteen feet, and shall increase two feet for each additional story. The length of an inner court shall never be less than twice the minimum width prescribed by this section; the length of an outer court shall never be greater than twice its minimum width." It would be well to abolish the inner court altogether for new tenements.

Vent Shafts. Article I., Section 1, Paragraph 5, which defines a vent shaft, should be omitted. Paragraphs 127-9, 134-5, should be changed in so far as they authorize the construction of vent shafts in new buildings. All the provisions relating to inner courts should be applied to vent shafts.

Fire Provisions. The fire provisions in the tenement house law should be amended to require that every tenement house, hereafter erected, four or more stories in height, be fireproof throughout, and that three-story tenement houses have a brick exterior and a fireproof stair hall. If a distance of ten feet is required between two-flat houses; if they are provided with two means of egress from each floor, including inhabited rooms in the third half-story, and with non-combustible roofs, a fireproof exterior will not be necessary. Single-family houses should have fireproof roofs and should be built not less than ten feet apart.

Frame Buildings. Article II., Section 1, Paragraph 63, should be so changed that no frame buildings can be built more than two whole stories in height or be occupied by more than four families. No new wooden buildings should be built or altered to allow any part to lie within five feet of the lot line or within ten feet of any neighboring building.



ILLUSTRATION No. 37.

Two-family houses. One of the most promising and desirable types of houses, having all the advantages of the three and six-family frame houses, but with more privacy and a somewhat reduced fire risk. If the space between the houses were increased by 4 ft. and roofs were made fire-proof, as required by the building ordinances of some cities, the fire risk would be considerably reduced; for conflagrations spread largely from the showers of cinders on wooden shingles. The truncated third story leaves a bare ell with flat roof which makes these houses ugly when viewed from the side or rear.

Combustible Roofs. For the further protection of Newark from conflagration from its immediate suburbs, the law should provide that no dwelling house or tenement shall be erected hereafter with a roof of inflammable material.

Fire Escapes. Fire escapes are now required on "every non-fireproof house hereafter erected more than three stories high." Many serious fires have occurred in three-story tenement houses, in which the egress of tenants from upper floors was cut off by the flames of smoke-filled hallways. Unless three-story tenement houses are provided with two outside fireproof stairways, one of which is directly accessible to each apartment, they should be provided with iron fire escapes of the type specified in Sections 35-47.

Windows. In Sections 114-15, the general provisions of the Tenement House Act concerning size of windows do not include windows in water closets. Light and air are necessary as disinfectants and cleansers. This Act should require all rooms to have windows equal to one-seventh of the superficial floor area instead of one-tenth as now required.

Size of Rooms. New Jersey requires that every tenement house shall have at least one room containing not less than 120 square feet of floor area, and that no room shall contain less than 70 square feet. Some cities make 90 square feet the minimum floor area, and the Massachusetts law and Columbus Ordinance require one room of 150 square feet in each apartment.

Crowding and Air Space. Provisions for air space in rooms are arbitrary and somewhat unsatisfactory. To prevent any tendency toward overcrowding, Section 142 should be changed to require 600 cubic feet of air for adults and 400 cubic feet for children under 12 years of age.



ILLUSTRATION No. 38.

A row of new tenements, four stories high with basement. Fire escapes are encumbered in spite of law. At the rear of these houses are courts approximately 55 ft. deep and only 5 ft. wide. The lower floor rooms at the ends of these courts are very inadequately lighted. Unless the provisions of the tenement-house act or building code are made more strict with reference to width of outer courts and occupancy of basements, the city will soon be involved in heavy expense for the tuberculosis bred and spread in the dark rooms which this type of construction causes. These buildings already have a tuberculosis record.

Dark Halls. Section 118 should be amended to require windows in public halls of every tenement house, which shall have at least the minimum dimensions recommended above, and shall open directly upon the street, yard or court.

Section 123 requires the panels of doors to apartments opening into dark halls in old tenement houses four stories or more in height, to be replaced by panels of translucent glass. This law should be applied to all tenement houses (including the two-flat house as newly defined), with the additional provision that windows should be cut to the outer air wherever possible.

Cellars. Cellar dwellings should be prohibited in all buildings, new or old. Basement dwellings should be forbidden in all new buildings, but permits for continued use of basements now occupied might be granted in accordance with Section 130. A special permit, for basement apartments for janitors, may properly be secured from the Board of Health, under the conditions specified in Section 131.

Water Closets. A few amendments to the sanitary provisions of the Act should be made. Section 160 requires at least one water-closet compartment in every new apartment. A separate toilet should be provided for each family in old buildings as well as in new, within the apartment wherever possible. The cellar toilet should be prohibited in all dwellings, save as an accessory. Section 161, which permits yard toilets for tenement houses of three or four stories, should be amended so that no yard closets should be permitted for a basement house or dwelling of any height, where toilets can be placed within the apartment, or, if not within the apartment, within the hall. Locks or bolts to doors of all toilet compartments should be required.



ILLUSTRATION No. 39.

A garden in the rear of ——— Street. A well kept grass plot, neat walks and a flower border with a few well cared for trees render this house and garden peculiarly desirable for home life.

Water Supply. Section 170 now reads, "Every new existing tenement house located on any street in which water mains are laid shall be properly connected to such water mains, and shall have at least one sink within each apartment; provided, however, that in tenement houses where a sink is now installed on each floor, in the public hall, such sinks shall be deemed sufficient." This section should be amended to eliminate the proviso, thus requiring a sink in each apartment without exception. The common sink is subject to the neglect always accorded to common property.

Recommended Changes in Building Code

General Recommendations. Many of these provisions may be adopted locally by amendments to health and building codes before a state-wide housing reform is thoroughly organized. At present the building department is concerned exclusively with structural details. In most large American cities, in which no state tenement house act is operative, building departments are entrusted with the enforcement of provisions for lighting and ventilation. The Newark Building Department leaves the jurisdiction of such matters to the Health and Tenement House Departments. The Building Code should, however, prohibit the construction of dark rooms, and rooms and halls without windows, even in one and two-family houses; it should forbid the construction of three-story frame tenement houses (as recommended a few years ago by Mayor Haussling), and should require windows to be cut in dark rooms and halls of old buildings.

Specific Recommendations. A few specific recommendations are also offered. Section 6 (and the Lodging House Ordinance as well) should be amended to place in the lodging house class any building in which six or more persons are lodged for a single night, or for periods of less than a week, at less than 50c per night.

Section 6 should also be amended to forbid any private dwelling from covering more than 60% of the lot area, or 60% of a corner lot (now 80% and 92%).

Section 10 should be amended to bring the apartment hotel under the provisions of the Tenement House Act.

Section 28 should be amended to forbid non-fireproof buildings more than three stories in height.

The provisions of Section 46 should be eliminated, and the construction of light and vent shafts in new buildings should be forbidden.

Section 142 should be amended to forbid frame dwellings to be constructed for more than two families, or to a height of more than two and a half stories.

Section 145 should be amended to forbid frame buildings to be erected within five feet of the lot line, or within ten feet of neighboring buildings.

The last paragraph in Section 146, which permits laxness in the application of rules to outlying portions of the city, should be eliminated completely.

Recommended Changes in Sanitary Code

General Recommendations. The Sanitary Code should be amended to include the provisions with regard to water closets, sinks, crowding of rooms and occupancy of cellar and basement dwellings already indicated.

Specific Recommendations. The Sanitary Code should further be amended as follows: Sections 760, 781, 783 should be made to apply to one and two-family houses.

Section 814 should be amended by erasure of the words "unless pursuant to a special permit from this Board."

Section 818, which requires that owners, etc., of every dwelling "shall provide and keep on the premises suitable

barrels or receptacles for receiving and holding garbage," should be made specific, and should place the power of enforcement with the Board of Health instead of with the Board of Works as is provided in the revised ordinance of the city. The Board of Health should require all garbage receptacles to be of metal and to be properly covered at all times, and should have assistance from the Police Department in the enforcement of its decisions.

Section 835 of the amendment should be amended to prohibit any manure vault within 40 feet of any dwelling.

Section 882 should be amended by erasure of the words "or be ventilated by means of a shaft or air duct," thus requiring all water closets to be properly ventilated.

The ordinance of September 1, 1903, should be made to apply to one and two-family houses. This will eliminate overcrowding from the shacks of the Island and Silver Lake Districts, which do not fall under the Tenement House Act.

What Newark Can Do

Newark needs a permanent housing association or committee to direct and represent the enlightened public opinion of the community. Such an association should study local conditions, suggest necessary changes in laws, experiment in methods of cheap construction and foster a sentiment in the community for the improvement of housing conditions. The recent attempt to abolish the State Tenement House Commission shows the danger from the activities of malicious tenement house owners and builders, and is an argument for the establishment of such an association.

The power of the City Plan Commission to pass on land subdivisions gives an opportunity to effect certain changes in housing conditions which should be extended by the creation of City Planning Commissions having similar powers in adjacent towns.

PUBLIC CONTROL OF THE DEVELOPMENT OF PRIVATE PROPERTY

Height, Area and Occupancy Restrictions

City planning is concerned chiefly with publicly owned property, such as streets, parks, public buildings and grounds, and public utilities. Such property constitutes from 35 to 50 per cent. of the total area of a city. The remaining 50 to 65 per cent. is developed by private owners.

In many dwelling districts private restrictions are running out and apartments are coming in, thereby causing a depreciation of adjacent property. Good residential streets are injured by the erection of even one garage or factory. The effect of a fine building is often destroyed by the building of skyscrapers in its neighborhood. Expensive courts, schools, libraries or hospitals are rendered useless when surrounded by noisy or dusty industrial buildings.

A well planned city should protect both its public and private buildings by placing restrictions on neighboring properties, thus directing the development of the city. Proper city planning benefits the whole community, and protects the individual from undue disturbance by the control of nuisances which may be injurious to his health, or detrimental to the value of his property. Promiscuous development is the curse of cities. Such activities of ignorant or selfish individuals as injuriously affect the general welfare should be controlled.

Germany and other European countries have made experiments in such control, and it has been taken up recently in America. Many real estate owners and operators favor the plan. New York was the first city to study the problem comprehensively. A charter amendment was passed at Albany in May, 1914, permitting the Board of

Estimate and Apportionment, on the report of a districting commission, to district the city. This work is now under way. Philadelphia has recently passed a similar ordinance.

Use of Police Power

The first essential in city planning is a knowledge of the limitations which the laws impose. The power of eminent domain is particularly useful in some instances, though not in regard to building regulation. A broad though not unlimited construction has been placed on the scope of the police power by the United States Supreme Court.

In connection with public safety the police have power to regulate street traffic and the uses of the highways, to control the structural elements in signs and bill boards, to protect property from fire and occupants of buildings from fire panic. For the protection of public health, they can restrict the uses of land in the interest of improved housing and working conditions, such as the lighting and ventilation of buildings, and the abating of smoke, dust and noise. They can so restrict the kinds of buildings which may be erected in residential districts as to preserve their appropriate character, and safeguard investments therein.

The police power can control private property: (a) by restrictions on the uses of plots for building, thus providing proper setbacks, open spaces, courts and yards; (b) by limitations on building heights, and (c) by the fixing of building zones or districts.

Providing for Open Spaces about Buildings

Provisions in the building code deal only with materials and processes of construction. But it is also of primary importance to make a city healthful and attractive by regulating the intensive use of land. Such matters as ventilation and lighting, protection against fire, assur-



ILLUSTRATION No. 40.

Many attractive residential districts are being encroached upon by apartments like this. The erection of one structure oftentimes destroys the value, for high class residential purposes, of a large area. Private restrictions are of short duration and quite inadequate. Municipal control of private development, within certain limits, will prevent chaotic and uneconomic development.

ance of privacy, and proper maintenance should be controlled to insure physical and moral health and industrial efficiency.

Regulation of Lot Occupancy. Regulation of the percentages of lots that may be covered by buildings of all kinds is essential from the hygienic and economic standpoint. Limitation of lot occupancy affects the amount of light and air available, and prevents congestion.

Number of Buildings on Lots. To regulate the percentage of lot covered by a single structure does not prevent the erection of other structures upon a single lot. The back lot tenement is undesirable; it is difficult to supervise, and tends to the moral and physical deterioration of its inhabitants.

Arrangement of Buildings. Even where there is no lot congestion, improper arrangement of buildings upon adjoining lots, or improper planning of individual structures, may result in lack of sufficient light and air. All rooms used for working or sleeping should have windows of adequate size opening upon a clear space, either street, yard or court of ample dimensions.

Rear Yards. Logically we should require that the open space at the rear of a building be as large as that in front. In fact, a greater depth might well be demanded, since continuity of open space, such as we find in a public street properly designed and proportioned in relation to the abutting buildings, will alone insure proper circulation of air between the fronts of buildings. We should at least require that the rear yard occupy the entire width of the lot, and that it be proportioned in depth to the depth of the lot, increasing proportionately with the increased height of the building.

Side Yard, Outer Courts, Inner Courts. For adequate light and air the well-isolated one-family house is the ideal. But this can not yet be enjoyed by all in the major-



ILLUSTRATION No. 41.

Apartment encroaching upon residential district. This is a common condition in Newark. A proper districting law is needed to prevent the spread of this evil.

ity of cities. Buildings should be so designed as to furnish all rooms used for working or living with the minimum requirements. Where houses are built either in rows or closely together the light and air must often come from either outer or inner courts, these courts being inclosed either by three or four walls. Obviously all courts should possess sufficient width to assure adequate light and ventilation, a fixed minimum being established, this to increase in proportion to the height of the structure.

Conclusion. The proportion of its lot which a building may occupy should be limited. It is particularly important that a free open space should be left across the rear of a building. The proportion of open space should be increased as the building increases in height.

Limiting the Height of Buildings

American cities are erecting many high buildings, thus causing an increase in rents and a concentration of population. The isolated tall building is not in itself necessarily objectionable, but one should not crowd another along a street. Unfortunately American cities have not faced this problem; and now the practice of high building construction has fixed itself so strongly that any attempt to control it is opposed by the speculative builder, and often by a sentimental attachment to the lofty office building.

At present Newark has no very tall buildings and it is doubtful if there will ever be a tendency here to erect structures higher than those now found in the business district. Restrictions should be established, however, to prevent such a contingency. The erection of tall buildings is not economical. Experience has shown that corridors, halls, elevators, shafts, stairs, and light wells, columns, walls, and partition spaces, conduits, etc., so reduce the rentable floor area, especially on the two lower

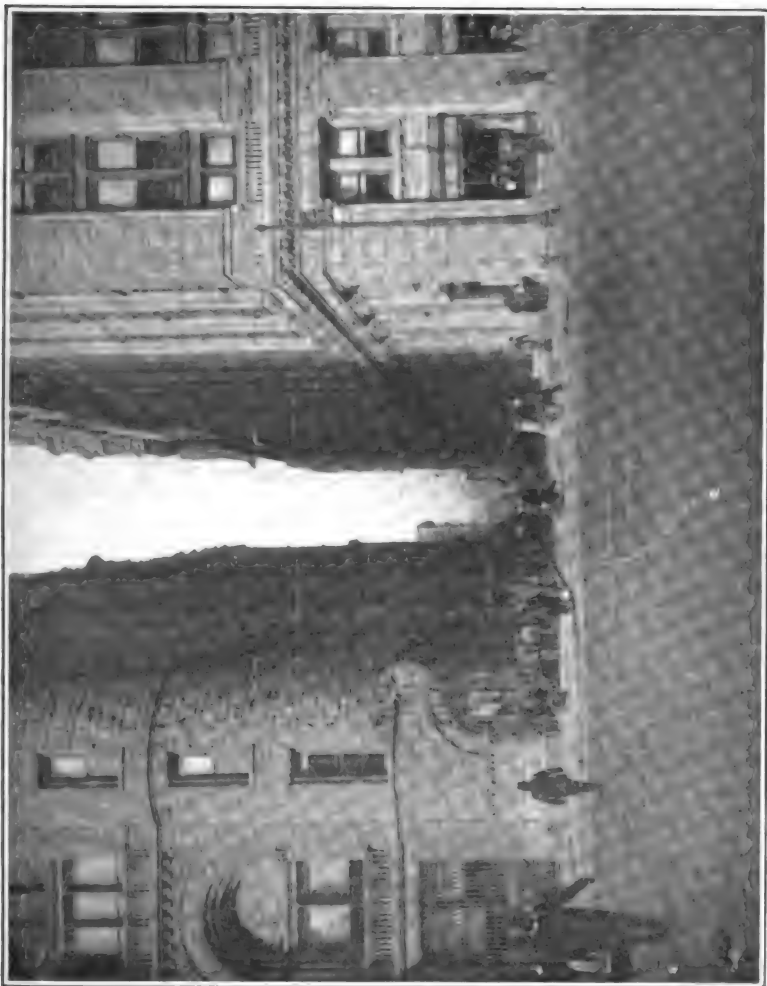


ILLUSTRATION No. 42.

High buildings on narrow streets result in darkened and ill-ventilated rooms upon the lower floors. Artificial light is used throughout the brightest day in the rooms on the lower floors of the buildings shown above. In no case should buildings exceed one or one and one-half times the width of the street upon which they face.

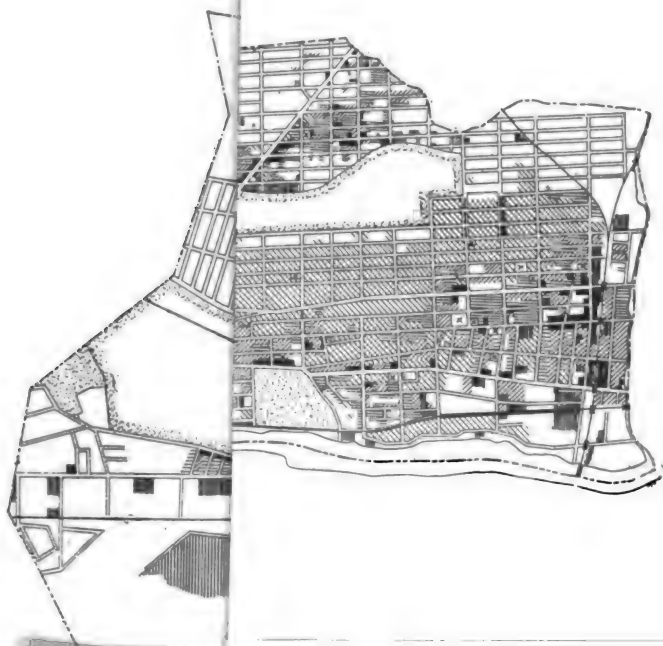
floors where space is most valuable, as to negative much of the gain in rentals for upper floors. Other expenses, such as heavy piping, a special water supply system, deep and complex foundations, wind bracing, long run elevators, etc., greatly increase the cost of high buildings. High buildings which stand alone may pay well; but when surrounded by other buildings equally high their value greatly decreases, this value being partly predicated on their ability to steal light and air from open space over their neighbors. If several high buildings are built close to one another damp and inadequately lighted rooms are the result. The danger from fire, not so much from the buildings as from goods stored in them, is an added argument against the construction of high buildings, especially in view of the inability of the ordinary fire department to cope with them successfully.

The congestion of pedestrian and vehicular traffic on streets lined with high buildings alone justifies interference by the city for the regulation of building heights.

The Basis of Limitation of Height. The controlling factor in the limitation of building height should be the width of the street or other open space on which the building abuts. Several cities in this and other countries make street widths the prime factor in the erection of buildings, particularly tenements, the height varying in accordance with the width of the street, diminished or increased by an arbitrary unit, or by the width of the street increased by a setback. It is unwise to erect buildings which exceed in height the width of the street upon which they face. Light which enters rooms on the ground floor of a building, on a street built up on both sides to a height equal to the width of the street, comes at an angle of 45 degrees and is quite evenly diffused throughout rooms of moderate size. Increased height should be permitted only with proper setbacks. With such provisions a

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BUILDING DEVELOPMENT

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IAL.
HOUSES ON LARGE LOTS.
FAMILY HOUSES ON SMALL LOTS.
MORE FAMILY HOUSES.
CHURCHES ETC.
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[] CEMETERIES.



height of twice the street width could be permitted. Towers could be permitted if so proportioned to the area of the building as not to interfere with the light and ventilation of adjoining property.

Districting

Regulations of height, area, and occupancy of buildings in certain defined parts of the city constitute what is called Districting. To limit buildings to a uniform height throughout a whole city is not wise. Different districts need different height and area regulations.

Restriction by Covenants in Deeds. Individuals or groups of individuals by private covenant or property restrictions have been unable to keep residential districts free of noise and discomfort caused by the encroachment of factories and apartments.

Use of Police Power. Special and economic forces and topographical peculiarities tend to group buildings according to kind of use. To promote the use of police power is therefore merely to further a natural, not an artificial, process. When the police power is used to establish restrictions which will best promote the safety, comfort and health of the people it is safe to assume that the courts will view such use as reasonable and proper.

Buildings may be classified according to type and districts to avoid the evils which accompany congestion. Districting makes possible the highest and most specialized use of land, increases its usefulness and value, and brings it into the class of conservative rather than speculative investment.

The Opinion of the Courts. The right thus to divide the city into districts or zones with special building regulations for each zone, has been granted by the Supreme Court of Massachusetts and by the Supreme Federal Court.

In decisions rendered it is stated that the State, in the exercise of police power, may (a) so limit the height of buildings that none can be erected above a prescribed number of feet; (b) may district the city, prescribing different height limits for each district; (c) may delegate the right to determine the boundaries of different districts, and the height limits which shall be permitted in them.

Methods of Districting. The limits and special restrictions for each particular district, so the decisions rendered indicate, shall be determined only after careful consideration of such details as: the character and extent of all present development, the character and tendency of all groups and types of buildings used for industry, business or residence, the location of all public utilities.

History of Districting. The division of a city into districts or zones is common in Europe, the German system being best known, and such division is usually conceded to be beneficial. In America the plan has been adopted to a limited extent only. The method used is either to put provisions in building codes or housing laws authorizing the establishment of residential and industrial districts, or to secure special acts of the legislature, or local ordinances to create residential and industrial districts and limit the height of buildings.

Policy in Districting. Existing development should largely govern restrictions to be established in the built-up sections of a city; stringent restrictions being set for new sections. Railroads, waterfronts, warehouses and industries which are closely interdependent should be planned in accordance with individual and mutual requirements. Residential districts should be governed in accordance with their obvious requirements, and with regard to accessibility to important centers of industry and business. Residential districts should be divided into three classes,

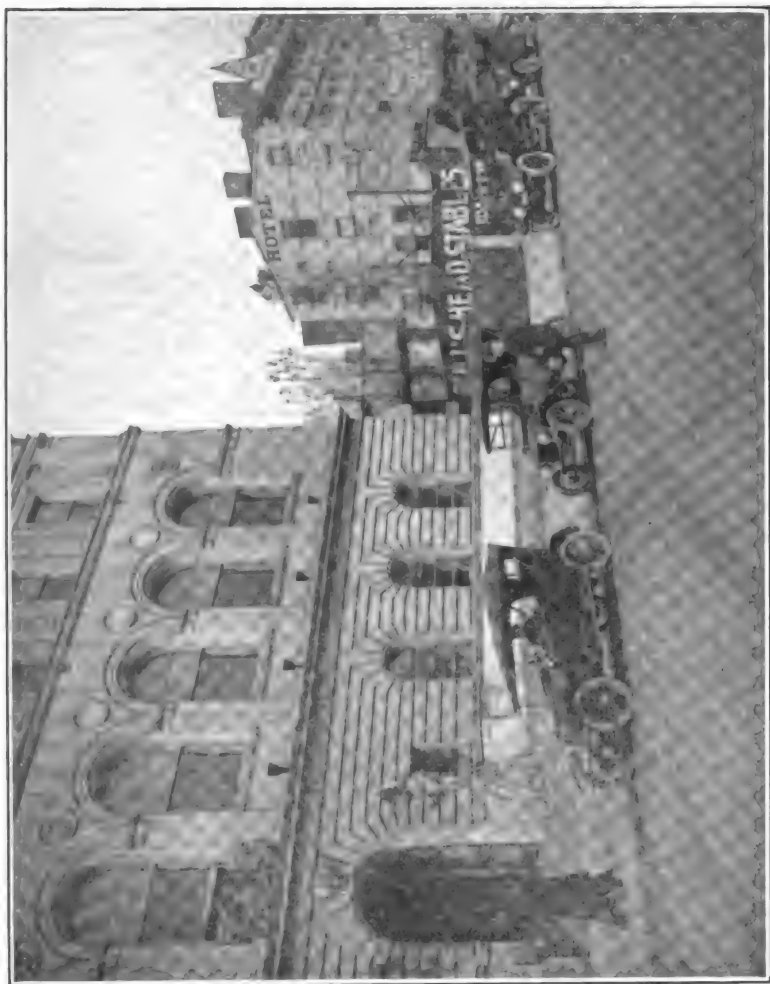


ILLUSTRATION No. 43.

The inability of a municipality to properly protect its public buildings through exercise of control over adjacent property is a strong reason for the establishment of districting laws. The illustration shows an unsightly stable abutting the Free Public Library.

one for tenements, one for one- and two-family houses on small lots, and one for the better type of single family houses, occupying large lots and plots.

Conclusion. Reasonable districting is essential to the proper development of Newark. Property owners and citizens have a right to demand that adequate light, area and occupancy regulations be imposed throughout the community.

Districting is an integral part of city planning. It is the most important single phase of the development of the physical city. No subdivision layout, no street extension, no park, no playground, no trolley rerouting, no water front development, can be adequately determined from a city-planning standpoint without a thorough consideration of the surrounding districting. The obverse is equally true. The two are inextricably interwoven. Neither can proceed without the other. Since Newark has undertaken an extensive program of city planning, it is most important that districting should be treated as a part of that planning.

NOTE:—For further data and discussion see the report in 1914 of the Heights of Building Commission of New York City.

LAND SUBDIVISIONS

Land subdivision, particularly size and arrangement of lots, is closely allied to the housing problem. Under the law creating this Commission all new land subdivisions must be submitted to it for recommendation and report. When considering the many land subdivisions which have been submitted note has been taken of elevations, grades, size and arrangement of lots. With few exceptions, all plans submitted have contained the 25x100-foot lot, which prevails throughout the city. In one or two instances, however, lots of much smaller dimensions appeared. These were changed to standard size, or larger, before approval was given.

The city has discouraged the use of curving streets and irregular lots. The only streets on curves in Newark are Hinsdale Place, Renner Avenue and Homestead Park, and these do not curve for more than a block or two. There are advantages in straight streets and lots of uniform shape. There are few waste corners on such lots. Their value is easily ascertained. They are easily described and recorded. The prevailing lot in Newark is about 25 feet by 100, though widths may vary from 15 feet to 30, and depths from 75 feet to 120. Most lots are within these limits.

Disadvantage of Uniform Type. There are serious disadvantages in lots of uniform shape. In the first place, a popular prejudice, which is not easily dislodged, is created for the deep and narrow lot, and the poor man who wishes to build a cottage home is socially constrained to purchase a lot 100 feet deep whether he needs so much land or not. It is perhaps wise for a city to have standard lots, at least in the heart of the city, until the science of lot distribution and usage is developed. It is not easy to make definite rules for the layout of lots of any other form which would be more satisfactory for all purposes. But

the lack of elasticity in present lot shapes and sizes is fraught with serious consequences. The 25x100-foot lot cannot be used economically for workingmen's cottages. It is wasteful of land at the rear. The American workingmen will not ordinarily make a garden as does the English or Italian. It is parsimonious of land at the sides of houses, especially if they are built in two-flat style. It is impossible to construct two-flat houses on lots of this shape which will not be too near to the lot line and thus to neighboring houses. The maintenance of the 25x100-foot lot will make Newark a city of tenements. The undeveloped land of new sections, including, of course, all of Newark's contiguous suburbs, should be more economically plotted.

Recommended Type Near Factories. Near factories, where land values are not yet prohibitive, the Philadelphia type of housing can be promoted by establishing lots as narrow, even, as 14 to 16 feet and 40 feet in depth, for four-room or six-room cottages, two stories in height, with brick dividing walls on the lot line. Houses of this type can be constructed even for the families of day laborers, as the experience of Philadelphia has proved. If this type of house is to be used, builders should be provided by some competent authority with standard plans, giving types that are cheap in design and yet healthful, and varied in exteriors. Multiple cottages of this type can be constructed to rent or to sell. Streets may be narrow without darkening rooms; but provision should be made for grass strips and trees on all streets of this character, relieving the monotony and giving air for the rather crowded residents.

Suburban Lots Wider and Shallower. In the outlying portions of Newark's suburbs, both straight and winding streets may be provided, and in certain quarters lots narrower or wider, shallow or deep, may be accepted

according to the prospective use of the quarter. In general, however, the narrow lot should be avoided in such suburbs. The permission to plot deep lots might be granted if the city keeps the right to push a minor street through the middle of blocks so plotted. Both one-family and two-family houses can be constructed more economically and to greater social advantage on lots 30 to 35 feet wide and 60 to 70 feet deep than they can now on the 25x100-foot lot. On the wider lot houses can be constructed with square floor plan, two rooms abreast and two or three rooms deep, reducing somewhat the cost of construction, the cost of heating, and the cost of furnishing. Furthermore, the lot 35 feet by 60 uses 400 square feet less of land than the lot 25x100 feet. On it a house may be built with two rooms of ordinary size abreast and yet leave five feet on the side to each lot line. The house may be built two rooms deep and leave a 10-foot lawn in front (insured by municipal provision for a building line) and a 25-foot yard in the rear, which may be encroached upon by a third room in the depth of the house or by a piazza, or may be used as a garden. The only serious disadvantage in this lot plan is that it provides for an increased street frontage, and thereby a larger cost to the owner for road construction, etc. But street costs can be reduced by wise planning after the manner suggested on page 26. There would unquestionably be a gain to the community from the use of this type of lot.

A report on lot dimensions was made for the National Conference on City Planning. It showed that detached structures are usually better fitted for home life when occupying lots with a width of over 25 feet. Buildings generally do not occupy the greater percentage of lot depth. Lots of greater width and less depth are therefore more desirable for intensive residential use. In the better residential districts larger lot units will prevail, of course.

Studies for the report were made from three typical blocks from different parts of the city. In two of these blocks, in sections equally distant from the center of the city, it was shown that land values had stood still for twenty-five years, while the normal increase over the entire city had been somewhat over 200%. In the third block, however, the same distance from the center of the city, land values had increased more than the average of the city. The apparent reason for the increase in the latter was the existence of more or less stringent restrictions enforced by private owners. The non-increase in value in the first two sections was apparently due to promiscuous development, which led to the intermingling of tenements, factories, stores, stables, etc.

The report showed the wisdom of establishing and enforcing restrictions by the municipality and the abandonment of the 25x100-foot lot in favor of one having greater width and less depth.

METROPOLITAN PLANNING

Newark is the center of the Metropolitan District of New Jersey. This district includes no less than eighteen separate municipal subdivisions in three different counties. It has a population of about 700,000 and an area of approximately 60 square miles, one-fifth of which is meadow land facing Newark Bay. This is a natural site for the location of a great city. Several waterways on the east are bordered by an expanse of low-lying land admirably suited for industrial purposes. The land rises west to the Watchung Mountains, giving ample good residential area. Much of this area is now occupied; but it is estimated that it can accommodate five times the present population. Within a short radius, outside of this district, there lives an additional population of nearly one million. This entire area is contiguous to New York City and many residents commute daily to the metropolis. New York, however, no longer dominates all northern New Jersey and, in the metropolitan district particularly, a spirit of progress and a distinctly characteristic individuality is making itself felt.

Table No. 6

Population of Cities and Towns in Metropolitan District

	1910.	1914.
Belleville	9,891	12,000
Bloomfield	15,070	17,372
East Newark	3,163	4,000
East Orange	34,371	39,852
Elizabeth	73,409	82,411
Glen Ridge	3,260	4,000
Harrison	14,490	16,180
Hillside Township	550	1,000
Irvington	11,877	14,687
Kearny	18,659	21,967

	1910.	1914.
Millburn Township	3,720	4,500
Montclair	21,550	24,782
Newark	347,469	389,105
Nutley	6,009	7,500
Orange	29,630	31,968
South Orange Township.....	2,979	3,500
South Orange Village.....	6,014	7,500
West Orange	10,980	12,722
Total.....	613,091	695,046

While the several municipalities have the improvements common to modern cities, these improvements, in general, have been made from the standpoint of local needs rather than of those of the district at large. Railroads and transit lines may be excepted, since they are controlled by private interests. This Commission, in co-operation with the Board of Street and Water Commissioners, formed an organization known as the "Conference on Interurban Improvement of Newark and Adjacent Municipalities" for the purpose of interesting and encouraging neighboring towns in making public improvements with an eye to future development. Committees have been appointed and reports submitted on the following subjects:

Streets.

Water supply.

Real estate development.

Transit and transportation.

Waterways.

Parks, playgrounds and municipal decoration.

Drainage and sewers.

Law.

The Conference urged importance of street extension work as laid out by county authorities, and showed the

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need for a central authority whose duties should be to recommend physical improvements within the metropolitan area to regulate land subdivisions. The following summary of the several reports and their suggestions describe present conditions.

Streets. Of all the interests common to two or more municipalities the street system is most important. Several factors have contributed to form a general, though incomplete, street system in this district. The Passaic River and Watchung Mountains are its physical boundaries. These run north and south and fix, generally, the direction of streets. Since the characteristic American rectangular plan has been followed, the majority of the streets run east and west or north and south. In addition to the rectangular plan there is an incomplete system of radial thoroughfares. These extend from the larger municipalities into their suburban districts. In 1705 a committee was appointed at a Newark town meeting to lay out roads from Newark to the mountains, where many of the residents had farms. A result of this action was what are now known as South Orange Avenue, Warren Street (in Newark), Main Street (in the Oranges), and parts of Bloomfield Avenue.

A study of the district discloses three prime needs: (1) extension of the major system of rectangular thoroughfares; (2) extension of the system of radial thoroughfares; (3) development of vacant land in conformity with the major and minor street systems.

The principal defects are narrow streets and lack of continuity of major streets.

Plan No. 27 shows the system of rectangular streets with suggestions for widening and extensions.

Plan No. 28 shows the principal system of intercommunity radial thoroughfares, with suggestions for widening and extensions.

No well-defined policy of street opening has been followed in the several municipalities. The smaller towns have grown up about one or more of the large radial thoroughfares leading from Newark and Elizabeth. Streets generally have been plotted by land owners in accordance with their own desires.

The street system planned and maintained by the Essex County Board of Chosen Freeholders is an exception to the general lack of system. This body controls well the major street system, but exercises no authority over the minor ones. Plan No. 29 shows the streets under the control of this Board the greater part of which, however, are west of Watchung Mountain.

Further suggestions for improvement may be found in the Interurban Conference Committee report on Streets and Highways. A more detailed study of the district will undoubtedly reveal the necessity for many more changes.

Water Supply. A joint water supply for the communities in the Passaic Valley, and the proposed inauguration of a State plan of water conservation has long been under consideration in Essex and Passaic counties. In 1907 the Legislature created a State Water Supply Commission to supervise the allotment of available water supply sources to the several communities, so that one would not unduly interfere with the opportunities of others eventually to obtain ample water supplies. Throughout the State, as well as in the Metropolitan District, the problem of conservation of the water supply is of great importance.

The State Water Supply Commission has made a careful study of the sources of water supply and is gradually arriving at a solution of an extremely complicated situation.

Of the communities situated in the Metropolitan District many are purchasing water from private owners

**MAP OF
ESSEX COUNTY
SHOWING
MUNICIPALITIES ALSO HIGHWAYS
UNDER THE CONTROL OF THE
BOARD OF CHOSEN FREEHOLDERS**

Others, including Newark, own sources of supply and distributing systems. Threatened shortages have led to an agitation for increased supply in several municipalities. The State Water Supply Commission has recently taken steps to purchase the largest privately owned water company which aimed toward centralized control. The State Commission also proposes to develop a large watershed in the northern part of the State, known as the Wanaque watershed. The prompt completion of this undertaking is extremely desirable. By it fully half of the population of the district will be provided with a much needed increased supply.

Additions and improvements in the water supply conditions of each municipality should in the future be carefully considered. The State has wisely undertaken conservation of these resources, and the extension of State activity seems a logical procedure.

Property Development. Other New Jersey municipalities should appoint commissions like Newark's City Plan Commission to regulate street openings for municipal welfare rather than for that of private owners. They should also take steps to control the development of private property, with particular reference to the establishment of restrictions on the height, area and occupancy of buildings. Good residential districts suffer from the encroachment of apartments or other undesirable structures, such as factories and garages; and expensive public buildings are easily made unattractive through the proximity of industrial structures.

The City Plan Commissions, or similar bodies, should undertake studies similar to that proposed for Newark, to prevent chaotic development and to obtain a greater degree of uniformity in building development. This should result in the stabilizing of values and should control overcrowding throughout the district.

Transit and Transportation. Plan No. 30 shows the distribution of population in the Metropolitan District and the steam railroad trackage.

Two operating companies are considering the replacement of steam railroad operation with electric operation. Already one electric line operates from Newark to New York City.

To a certain extent transportation facilities precede population. Two large, undeveloped areas in the north and south ends of the Metropolitan District will become large centers of population after the establishment of electric transportation service. It is believed that with the abandonment of the Morris Canal such service will immediately be established to the north. Electric service to the large vacant area south of Newark and Irvington could be effected through an extension of the Irvington Branch of the Lehigh Valley Railroad, west branch.

Trolley Extensions. Trolley transportation could well be provided in this district, south of Newark and Irvington. The extension of Clinton Avenue, previously suggested, would afford direct and, for the present, ample service to the southwest. For service to the large vacant area to the north of Newark, if a high speed electric line on the bed of the Morris Canal is not possible in the near future, it is suggested that a route to this section could be had via Bloomfield Avenue to the Morris Canal at Branch Brook Park, thence north to Bloomfield, paralleling the course of the canal as nearly as possible. Other suggested extensions include lines west on Centre Street, Nutley, to Montclair; west on Springdale Avenue in East Orange; west on Eighteenth Avenue, Newark, through Irvington and Vailsburg; west on Lyons Avenue in Newark and Irvington; north from Springfield Avenue and Clinton Avenue, Irvington, following approximately the line of Myrtle Avenue and Munn Avenue; north on Sanford Ave-

nue and Prospect Street from Irvington to East Orange and Bloomfield; north from South Orange to Orange, following approximately the line of Centre Street.

Freight Traffic. With increased population, freight facilities must necessarily be augmented. Freight might advantageously be handled by the trolley company in certain parts of the district. The unionizing of separate freight stations should also be considered by the several steam railroads, as will probably be done with the freight stations within the first ring of the city of Chicago. This would require one or two freight loops, for the merchant should not be required to send produce to separate stations when a small amount of trackage and relatively low switching costs would permit each freight station to serve each road, and at the same time would considerably diminish the handling of freight between station and factory or warehouse in the district. Such a loop has already been suggested within the city of Newark. A second outer loop could be formed by the extension of the Irvington Branch of the Lehigh Valley Railroad, west to join the D., L. and W. Railroad at Short Hills, with a connection between the latter and the Erie Railroad at Orange. A direct connection could be effected between the Lehigh Valley Railroad and the Erie Railroad at Orange, so making a complete loop. In either case, the trackage in Newark would be the same as that proposed for the inner loop.

Waterways. Newark and Elizabeth are especially concerned with the development of waterways, since each has a large proportion of water frontage. Bayonne and Jersey City could well unite with these two municipalities in preparing a comprehensive plan of harbor development, such as is shown on Plan No. 10.

Parks. The Essex County Park Commission now controls twelve parks and two reservations, with a total

acreage of 2,323.38 and a valuation of \$6,000,000. Also, there are numerous small parks owned or maintained by the several municipalities. There is no immediate need for more park area; but a boulevard system should be laid out to connect the several units into a complete system. The Park Commission is directing effort to this end rather than to acquiring additional park area. The policy, then, leaves it with the individual municipalities to secure additional parks.

Plan No. 31 shows present and suggested parks and parkways, forming a complete system. The suggestions include: (1) extension of Branch Brook Park north, perhaps to include the golf links; (2) a park in the valley of the Second River; (3) a park in Third River Valley, extending from the Passaic River west to Montclair; (4) a boulevard from the suggested Third River park west and south to connect with Eagle Rock Reservation; (5) a boulevard along the route of the Morris Canal, as suggested by the Morris Canal Investigation Committee; (6) a park or parkway in the valley of Elizabeth River from Morris Avenue, Elizabeth, west and north to Central Avenue, East Orange; (7) a parkway connection between Weequahic Park and the Elizabeth River Valley; (8) a park or parkway along the West Branch of Elizabeth River, extending west from Salem to Rahway River in Milltown; (9) a park or parkway in the valley of Rahway River from South Mountain Reservation to Milltown; (10) a boulevard connection between Eagle Rock Reservation and Watsessing Park over Eagle Rock Avenue, West Orange, and Dodd Street, in Orange and East Orange; (11) a boulevard along the west bank of Passaic River over Main Street, Belleville, and the River Road, Nutley; (12) a boulevard approach to Branch Brook Park from downtown Newark; (13) a boulevard connection between Weequahic Park and Branch Brook Park over

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Belmont Avenue and Norfolk Street, Newark.

This program would make possible several complete circuit routes. It probably will be impossible to make Belmont Avenue and Norfolk Street in Newark, Eagle Rock Avenue and Dodd Street in the Oranges, Main Street and River Road in Belleville and Nutley, boulevards in the strict sense of the word, *i. e.*, having ample width and excluding commercial vehicles. Good pavements, however, and a certain amount of parkway treatment will make these thoroughfares connecting links in the suggested park system. Most of these routes especially lend themselves to park purposes from the natural beauty of the land.

Municipal Decoration. A complete study cannot be presented of location and design of public buildings, regulation of signs and billboards, removal of unnecessary poles and wires, adequate and uniform lighting of large and more important intercommunity thoroughfares, creation of local civic centers, etc., all of which are important in a proper scheme of municipal decoration. Of great importance is the treatment of street intersections, however, not only for space for traffic distribution, but also for creating more pleasing architectural features and plazas of liberal proportions.

These street intersections should receive special attention:

Franklin Avenue and John Street, Belleville.

Washington Avenue and Centre Street, Nutley.

Belleville Avenue and Broad Street, Bloomfield.

Bloomfield Avenue and Broad Street, Bloomfield.

Washington Street and Dey Street, Orange.

Main Street and Prospect Street, East Orange.

South Orange Avenue and Valley Road and Scotland Street, South Orange.

Springfield Avenue and Clinton Avenue, Irvington.

Elizabeth Avenue, First Avenue and New Point Road, Elizabeth.

Newark Avenue and North Broad Street, Elizabeth.

Belmont Avenue and Norfolk Street connection, Newark.

Elizabeth Avenue and Clinton Avenue, Newark.

Market Street and Central Avenue extension, Newark.

Plans Nos. 3 and 21 suggest a treatment for the last two.

Drainage and Sewers. Of the eighteen cities and towns of the Metropolitan District all but three have sewer systems. Of these Belleville has begun construction on a comprehensive plan; Nutley has adopted a plan and will doubtless begin the construction of a sewer for the more closely built section, upon the completion of the Passaic Valley Sewer. All Nutley sewers will discharge into the Passaic Valley Sewer, leaving only Hillside Township unprovided for. A comprehensive plan for sewage disposal, based on the topography of the district, might have produced a better sewer system at much less expense if followed from the beginning. Each town, unfortunately, kept within its own boundaries, making excessive cuts in some places, shallow sewers in others, and two pumpings in addition. The short-sightedness of this policy, however, has been realized and soon Harrison, Kearny, East Newark, Orange, East Orange, Bloomfield, Glen Ridge and a large part of Newark will divert their sewage from Passaic River into the Passaic Valley Trunk Sewer, while Orange, Glen Ridge and Montclair may establish a joint sewage disposal plant. A splendid example of joint action is the so-called "Joint Outlet Sewer," built by agreement between seven different municipalities, West Orange, Millburn, South Orange, Irvington, Vailsburg, Newark and Elizabeth.

Future sewerage construction in the Metropolitan District should be, in the interests of economy and efficiency,

co-operative, that is, it should follow the topography of the land rather than artificial political divisions; it should maintain existing stream valleys as park areas, not only to preserve their natural beauty, but also to avoid the enormous expense of storm sewers, and it should follow comprehensive plans for unsewered sections.

Housing. Housing evils similar to those in Newark exist in the several municipalities of the Metropolitan District. Detailed description of these evils and specific remedies cannot be presented here. Each municipality might well adopt a building code after the general plan of Newark's, to insure uniformity of procedure and to eliminate the more flagrant evils. Unofficial housing committees should be appointed to study conditions, recommend changes and experiment in tenement house construction.

Conclusion. Only after careful investigation can a proper plan be made for the Metropolitan District. The study made by the Interurban Conference was necessarily brief and its conclusions are not final, though those making the study had the benefit of a full knowledge of existing conditions. This work of laying out a comprehensive plan for the Metropolitan area should be undertaken either by the several communities or by a centralized authority. Only by the establishment of such a plan can this vast and complex area be developed without great discomfort and great expense to all of its million inhabitants.

PART IV.

EXCESS CONDEMNATION, MUNICIPAL EXHIBITION, FUTURE WORK, CHRONOLOGICAL AND FINANCIAL PROGRAM, APPENDIX

Excess Condemnation

A city has an ever increasing need for land or land rights. Excess condemnation is the power conferred upon a municipality, or other political subdivision, to take more land than is actually needed for a public improvement. This power is exercised chiefly in the opening of streets or in creating parks or playgrounds. Its advantages are: (a) reduces the original cost of an improvement by securing the benefit of the enhanced values due to it; (b) enables the municipality to protect its own investments through the establishment of restrictions. Those who oppose it claim: (a) that it is an infringement of personal liberty; (b) that it opens a way for political intrigue through municipal handling of real estate, and (c) that its effect is apt to be offset by excessive jury awards for damages, etc.

Reasons for Use of Excess Condemnation

Public improvements, made with public money, usually create increased property values in the neighborhood of the improvement. By taking property in excess of that needed for a particular improvement the public benefits by the enhanced value thus created. Excess Condemnation frequently insures the success of an improvement, since, without it, conflicting property interests may hinder the readjustment of the locality to the new conditions. A municipality may recoup the expenditure necessary for public improvements: (a) by placing the whole cost on the municipality, or (b) by placing a portion on the municipality and levying assessments, known as "benefits," on neighboring properties supposedly benefited. This second

method limits the readjustment of the immediate locality to meet the changed conditions.

When a street is widened, for instance, or a new street is built through a district already built up, small, irregular plots abutting the improvement often remain which are not suited to building purposes, and hence are useless unless united with adjoining plots and the tract thus formed reapportioned into proper building plots. Because of the conflicting interests of private owners this rearrangement is seldom effected, and the value of the improvement is largely lost. It is also difficult to assess many of these irregular plots, or remnants, for benefits, though they often sell at a figure equal to that of the original value of the entire lot. In widening Delancy Street, New York, to make an approach to the Williamsburg Bridge, there were plots left having a depth of only 10 feet.

It is because of conditions like these that we see newly constructed parks or boulevards surrounded by unsightly fences and dumps, or find the approach to a fine structure lined with buildings entirely out of harmony with the character of the neighborhood.

The aim of excess condemnation is to minimize conditions such as these, and to enable municipalities to secure some return from the increased values which the improvements have created, and to increase the value of the new improvements.

At the suggestion of this Commission a law permitting the practice of Excess Condemnation was submitted to the Legislature in 1913. This law was subsequently withdrawn and the following constitutional amendment prepared, passed by the Legislature and submitted to the electorate of the State at a special election held October 19th, 1915:

"The legislature may authorize the State, or counties, cities, towns, boroughs or other municipalities, or any board, governing body or commission of the same, to take more land and property than is needed for actual construction in the laying out, widening, extending or relocating the parks, public places, highways, or streets; provided, however, that the additional lands and properties so authorized to be taken shall be no more than sufficient to form building sites abutting on such park, highway or street. After so much of the land or property taken has been appropriated for such park, public place, highway or street as is needed therefor, the remainder may be sold or leased, and reasonable restrictions imposed."

This Excess Condemnation amendment was defeated because of a lack of general knowledge concerning the reasons for the use of such authority, and because this question was overshadowed by other proposed amendments at the same election. This Commission had distributed much information on this subject, and it was gratifying to note that both city and county returned a favorable majority.

Excess Condemnation is essential to the practice of city planning in New Jersey, and a State wide publicity campaign in its favor should be conducted, previous to the next election on constitutional amendments, five years hence.

MUNICIPAL EXHIBITION

A citizen often learns for the first time how the business affairs of the city are conducted, when he has occasion to protest against some particular aspect of the public service. An intimate knowledge of the mechanism of the city government is essential to intelligent voting and good citizenship, yet citizens are extremely indifferent to such affairs. Cities are beginning to realize this and they are giving more attention to the dissemination of information regarding such things as the makeup of the budget and the character and cost of maintenance of public utilities.

City planning is not readily understood by the citizen who gives only casual attention to city affairs. To him it is a visionary affair, with little tangible value. In March, 1915, a well prepared exhibition of foreign and American city planning was displayed in the City Hall. A local municipal exhibition was held in connection with this. The following city departments participated:

- Assessment Commission.
- Board of Education.
- Board of Health.
- Board of Works.
- Building Department.
- Centre Market.
- City Clerk.
- City Home.
- City Hospital.
- City Plan Commission.
- Department of Taxes.
- Department of Weights and Measures.
- Essex County Freeholders.
- Essex County Park Commission.
- Finance Committee.
- Fire Department.
- Free Public Library.
- Inspector of Gas and Gas Meters.
- Newark Anti-Tuberculosis Association.
- Newark Museum.
- Playground Commission.
- Police Commission.
- Poor and Alms Department.
- Shade Tree Commission.
- American City Bureau of New York.

The building decorations were in charge of the Shade Tree Commission. An attractive program was presented. Thirty thousand persons attended this exhibition, which was the first of its kind in Newark. Many Newarkers here discovered that their city is a vast organization, whose many and varied activities are worthy of careful consideration. Such a municipal exhibition should be made permanent or repeated annually.

FUTURE WORK

This Commission has here presented the results of the investigations which it has made in accordance with the powers conferred upon it by law. The duty of the Commission is to recommend rather than to construct. Effective city planning must be in harmony with administrative authority; but it should not be charged with such authority itself.

City planning should include:*

Streets.	Waterways.
Parks.	Terminals.
Playgrounds (Recreation).	Markets.
Transit.	Districting.
Grouping (and design) of Public Buildings.	Housing.
Railroads.	Street Architecture.

Transit, railroads, terminals and markets are generally controlled by private interests; the other subjects are in the hands of public authorities. The responsibility for the location, design and grouping of public buildings and for districting, street architecture and platting should rest entirely with the city planning commission. Waterway, housing, the location of parks and playgrounds and the regulative powers which a municipality may exert over transit, railroads, terminals and markets, should also be subject to the recommendations of the city planning authority, such recommendations to be overruled only by a two-thirds vote of the governing power.

The situation in Newark is complicated because three counties are in part included in its metropolitan district.

This report suggests a tentative, comprehensive plan which must be revised to meet the needs of the city. It should be thoroughly discussed, and a permanent body

*Housing and street architecture are here added to a list submitted by the Committee on Constitution and Powers of a City Plan Authority, to the National Conference on City Planning at Detroit, June, 1915.

should be created with authority to control the features of the city with which it deals.

Proposed City Plan Law

In order to bring this about, the following law is suggested:

An Act to amend an Act entitled "An Act to enable cities of the first class in this State to provide for a City Plan Commission and provide funds and defining the duties thereof," approved March 12, 1913.

BE IT ENACTED BY THE SENATE AND GENERAL ASSEMBLY OF THE STATE OF NEW JERSEY:

It shall be lawful for the Mayor of any city of the first class to appoint a "City Plan Commission" to consist of seven citizens of such city, the mayor to be a member ex-officio. The terms of the members shall be one for seven years, one for six years, one for five years, one for four years, one for three years, one for two years and one for one year, in the order of their appointment. Vacancies in the membership of the Commission shall be for the unexpired term only.

City Plan Commissions now in existence shall be continued but with the powers and duties herein set forth.

It shall be the duty of such Commission to prepare a comprehensive plan for the municipality, which plan shall include streets, parks, playgrounds, transit, grouping of public buildings, railroads, waterways, terminals, markets and the districting of the city for the purpose of regulating height, area and use of buildings. All matters pertaining to any of the above shall be referred to such commission by the Mayor and council or other similar governing body of such municipality for consideration and report before final action shall be taken thereon. If, within sixty days after receipt of such reference by the Commission, such Commission shall make no report, the Mayor and council or other similar governing body may proceed without report as if this law had not been enacted. If a report is made by the Commission the Mayor and council or other similar governing body may take action in harmony therewith, but no action by the Mayor and council or other similar governing body contrary to the recommendations of such report shall be valid unless such action shall be taken by a two-thirds vote of the Mayor and council or other similar governing body.

It shall be the duty of the City Plan Commission to control, preserve and care for historical landmarks; to control in the manner provided by ordinance the design and location of statuary and other works of art which are or may become the property of the municipality; also the removal, relocation and alteration of any such works belonging to the municipality; and the design of bridges, viaducts, street fixtures and other public structures and appurtenances.

The City Plan Commission shall prepare and be responsible for the official city map. It shall also be the duty of such Commission to prepare and maintain an accurate record, history and description of all officially accepted city streets. The Commission at its discretion may also cause to be made a topographical survey of such municipality.

The City Plan Commission shall be the platting board of such municipality and all the powers and duties provided by law for such authority shall herewith be transferred to said Commission.

The members of the City Plan Commission shall serve without pay; they shall have the power and authority to employ engineers, architects, clerks and a secretary, and to pay for such other expenses as such Commission may lawfully incur under the powers hereby granted, including the necessary disbursements incurred by its members in the performance of their duties as members of such Commission; provided, however, that the total amount so expended in any one year shall not exceed the appropriation for such year as hereinafter provided.

It shall be lawful for the board or body having charge of the finances of any city of the first class as aforesaid, to appropriate any amount not exceeding twenty-five thousand (\$25,000) dollars any year that such commission may remain in existence, for the expense of such City Plan Commission and the moneys required for the expense of said Commission shall be raised in and for each city.

All acts or parts of acts inconsistent with this act are hereby repealed.

This act shall take effect immediately.

Future of City Planning from a County Standpoint

New Jersey laws now authorize the establishment of City Plan Commissions in all cities, towns, townships, boroughs and incorporated villages throughout the State.

In planning a county-wide control, the ideal condition would be for each of the municipal subdivisions to have its own city planning commission, and for these several commissions to hold regular conferences. A central commission should then be created whose duties should be to consider and report upon the interests of the county as a unit. This is particularly necessary for the proper planning of streets, transit, waterways, terminals and parks. Each municipality should, however, regulate its own development as to the location, grouping and design of public buildings, location of markets, districting, housing, street architecture and local parks. The time is hardly yet at hand, however, for the establishment of a county authority.

Should Newark secure a new charter with a larger measure of home rule, provision should be made in that charter for a City Plan Commission. The following is copied from the recently adopted Cleveland charter, and is of interest here:

Section 77. City Plan Commission. There shall be a city plan commission to be appointed by the Mayor with power to control, in the manner provided by ordinance, the design and location of works of art which are, or may become, the property of the city; the plan, design and location of public buildings, harbors, bridges, viaducts, street fixtures, and other structures and appurtenances; the removal, relocation and alteration of any such works belonging to the city; the location, extension and platting of streets, parks and other public places, and of new areas; and the preparation of plans for the future physical development and improvement of the city.

CHRONOLOGICAL AND FINANCIAL PROGRAM

Definite plans are needed if definite results are to be reached. This program is, therefore, submitted for consideration, to be revised if necessary, and submitted to a referendum for adoption, subsequent changes to be made only after a like procedure.

Fifty years is the time limit set for the completion of the plan. The projects are divided into ten groups, each project to be undertaken during the five-year period into which it falls. Failure to complete specified improvements in a certain period is automatically to distribute these into successive periods. It is difficult to estimate the cost of completing the whole plan. Note must be taken of the fact that land values will increase in nearly all parts of the City. The financial ability of the municipality to acquire and develop its waterfront and to support the connecting railroad must be considered. Aside from these two items the plan calls for an estimated total expenditure of \$25,000,000. This figure will be somewhat modified by increased ratables and revenues. Many of the street openings will nearly pay for themselves in a short time. Wisely administered public markets and waterfronts should result in profits, rather than debits. It is estimated that there will be, as the several parts of the plan are completed, a return of \$10,000,000 through increased ratables.

The failure of the proposed constitutional amendment permitting the practice of excess condemnation was unfortunate in Newark, for this power would have helped to complete certain urgent improvements. It should be brought forward again at the next special election on constitutional amendments five years hence. Much unnecessary expense can be saved by adopting the pay-as-you-go policy for improvements.

The financial allowance for each of the five-year periods should be fixed in accordance with the city's revenue. An annual expenditure of not more than \$1,000,000 would complete all that has been herein suggested.

First Period—1916-1920

Non-Financial Undertakings

Revision of Comprehensive Plan and submission to referendum.
Abandonment of certain streets in meadow district.

Adoption of street plan to which all new street openings must conform, in special cases the standard plan to be departed from only by special ordinance.

Establishment of new building lines on Washington Street.

Establishment of new building lines on Mulberry Street.

Establishment of new building lines on Central Avenue.

Establishment of new building lines on Norfolk Street.

Establishment of trolley service throughout Washington Street.

Establishment of trolley service throughout Branford Place.

Establishment of trolley service throughout Eighteenth Avenue.

Establishment of trolley service throughout North Ninth Street.

Establishment of trolley service throughout William and Lafayette Streets.

Establishment of trolley service on certain streets in meadow district.

Rerouting of trolley cars.

Establishment of suburban express service.

Establishment of certain traffic regulations.

Election or appointment of local Harbor Commission or similar authority to supervise waterfront.

Sell Centre Market site.

Creation of county park in Vailsburg and in Second River Valley.

Create Recreation Department with powers sufficiently broad to do effective work.

Make districting study of city.

Make changes in local building code to improve housing conditions.

Make changes in tenement house law to improve housing conditions.

Obtain new city planning law with wider and more specific powers.

Assist and encourage city planning in neighboring municipalities.

Financial Undertakings

Extension of Central Avenue.
Straightening of Washington Street at Market Street.
Widening of Lafayette Street.
Extension of Belmont Avenue to Weequahic Park at Meeker Avenue.
Extension of Third Avenue to Bloomfield Avenue.
Establishment of Wholesale Terminal Auction Market.
Establishment of one Local Retail Market.
Establishment of Municipal Dance Hall.
Creation of Ironbound Plaza.
Rental, with option to buy, of two recreation centers.

Second Period—1921-1925*Non-Financial Undertakings*

Adoption of detailed plan for waterfront acquisition and improvement.
Establishment of trolley service on Lyons Avenue.
Establishment of trolley service on certain streets in meadow district.
Continue Abington Avenue across Branch Brook Park.
Continue Chancellor Avenue across Weequahic Park.
Prepare and submit constitutional amendment on excess condemnation.
Secure elimination of all grade crossings through elevation of all railroads.

Financial Undertakings

Extension of Frelinghuysen Avenue.
Extension of Fourth Avenue.
Connection of Belmont Avenue and Norfolk Street.
Extension of South Tenth Street to Orange Street.
Extension of South Tenth Street to Hawthorne Avenue.
Extension of Clinton Avenue.
Extension of Passaic Street.
Establishment of two retail markets.
Branch Brook Parkway—first section.
Rental with option to buy of two recreation centers.

Third Period—1926-1930

Build new approach to Jackson Street Bridge.
Creation of new street over Morris Canal east of Broad Street.

Straighten High Street at Orange Street and at Seventh Avenue.
Widen, regrade and improve Bridge Street.
Extension of Twelfth Avenue.
Establishment of two retail markets.
Branch Brook Parkway—last section.
Establishment of waterfront park with boathouse and bathing beach.
Establishment of two recreation centers.

Fourth Period—1931-1935

Extension of Plane Street.
Creation of Connecting Railroad.
Establishment of Neighborhood Park.
Completion of Hayes Park.
Establishment of boat and bath house on Passaic River.
Establishment of recreation center.
Complete fill of city-owned canal zone.

Fifth Period—1936-1940

Widen Mulberry Street.
Widen Washington Street.
Widen Beaver Street.
Establish recreation center.
Establish boat and bath house on Passaic River.

Sixth Period—1941-1945

Widen Central Avenue.
Widen Merchant Street.
Widen Norfolk Street.
Establish neighborhood parks.
Establish recreation pier.
Acquisition of waterfront.

Seventh Period—1946-1950

Extension of Beaver Street.
Establishment and development of Meadow Park.
Acquisition of recreation centers.

Eighth Period—1951-1956

Establishment of neighborhood park.
Establishment of recreation centers.
Acquisition of waterfront.
Construction of commercial quay.

APPENDIX

CITY PLAN COMMISSION LAW

Chapter 72, Laws of 1913

STATE OF NEW JERSEY

An Act to enable cities of the first class in this State to provide for a City Plan Commission and provide funds and defining the duties thereof.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

In cities of the first class it shall be lawful for the mayor to appoint a commission to be known as the "City Plan Commission," to consist of not more than nine citizens of such city, and the terms of office of all of such commissioners shall begin upon the first day of January next succeeding the date of their appointment in such city.

Whenever commissioners shall be appointed under this act, the terms of such commissioners shall be divided into classes of one, two and three years, and the mayor shall designate which of such commissioners shall hold such respective terms under the first appointment, and shall divide the said commissioners, as nearly as may be, into such classes, and said commissioners first appointed as aforesaid shall hold their terms for one, two and three years respectively.

All subsequent appointments shall be for the term of three years, and in case any vacancy arises the appointment to fill the same shall be for the unexpired term.

Any city plan commission now existing in any such city shall be continued, but with the powers and duties herein provided, until the appointment of new commissioners, under the provision of this act.

Such commissioners shall serve without pay, and it shall be the duty of such commission to prepare, from time to time, plans for the systematic and further development and betterment of such city. It shall have the power and authority to employ experts, clerks and a secretary, and to pay for their services, and to pay for such other expenses as such commission may lawfully incur under the powers hereby granted, including the necessary disbursements incurred by its members in the performances of their duties as members of said commission; provided, however,

that the total amount so expended in any one year shall not exceed the appropriation for such year as hereinafter provided.

The said city plan commission may consider and investigate any subject matter tending to the development and betterment of such city, and make such recommendations as it may deem advisable concerning the adoption thereof to any department of the municipal government, and for any purpose, make or cause to be made, surveys, plans or maps.

All questions concerning the location and architectural design of any work of art, statue or other memorial within such city shall be referred to the city plan commission for its consideration and report before final action is taken thereon.

All plats or replats of any lands within the limits of such city shall be submitted to the city plan commission for its consideration before the same are approved.

It shall be lawful for the board or body having charge of the finances of any city of the first class as aforesaid, to appropriate any amount not exceeding twenty-five thousand (\$25,000) dollars any year that such commission may remain in existence, for the expense of such city plan commission, and the moneys required for the expenses of said commission shall be raised by annual tax upon real and personal property as other taxes are raised in and for such city; provided, however, that for the fiscal year in which this act becomes effective, such moneys may be raised by said board or body having charge of the finances of such city, by appropriating for that purpose any moneys in the treasury of such city not otherwise appropriated, or by issuing and selling temporary loan bonds or certificates of indebtedness; provided that such bonds or certificates shall be sold at public or private sale, after due advertisement, at not less than par; which bonds shall bear interest at not more than five per centum per annum, and the payments thereof, with interest, shall be provided for in the next tax levy.

All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

This act shall take effect immediately.

Approved March 12, 1913.

REPORTS ISSUED BY CITY PLAN COMMISSION

1. Enabling Act. Printed—15 pages.
2. Preliminary Report. Out of print—24 pages.
3. Market Report. Printed—15 pages.
4. Broad Street Paving. Out of print—10 pages.
5. Housing Report. Out of print—75 pages, 3 maps, 20 illustrations.
6. Annual Report (1912). Out of print—9 pages.
7. Traffic Report. Not printed—26 pages.
8. Report on Opening Diagonal Street. Not printed—4 pages.
9. Report on Signs. Not printed—4 pages.
10. Farmers' Market Resolution. Not printed—1 page.
11. Report on Opening Nye Tract. Not printed—2 pages.
12. Trolley Transportation. Not printed—107 pages, 9 illustrations, 133 charts, 16 tables.
13. Report on Opening of Romaine Place. Not printed—1 page.
14. Report on Opening Sanford Avenue Heights, No. 1. Not printed—2 pages.
15. Report on Opening of Oakland Terrace. Not printed—1 page.
16. Meadow Report. Not printed—1 page.
17. Essex County Hospital Tract. Not printed—1 page.
18. City Planning for Newark, N. J. Printed—200 pages, 1 map, 45 illustrations.
19. Report on Hiker Monument. Not printed—1 page.
20. Annual Report (1913). Out of print—6 pages.
21. Newark Park Corporation Plan. Not printed—4 pages.
22. Park Place Trolley Franchise. Not printed—7 pages, 4 plans.

23. Annual Report (1914). Out of print—12 pages.
24. Recreation Report. Printed—36 pages.
25. Public Improvements in Newark. Not printed—8 pages, 1 chart.
26. Report on Traffic Conditions. Not printed—9 pages, 1 chart.
27. Comprehensive Plan of Newark. Printed.

INTERURBAN CONFERENCE REPORTS

1. Streets and Highways. Printed—52 pages, 25 maps.
2. Water Supply. Not printed—4 pages.
3. Property Development. Printed—8 pages.
4. Opening of Sixteenth and Eighteenth Avenues. Not printed—2 pages.
5. Park and Boulevard Plan in Second River Valley. Not printed—2 pages.
6. Transit and Transportation. Not printed—6 pages.
7. Waterways. Not printed—7 pages.
8. Centre Street Bridge. Not printed—3 pages.
9. Parks, Playgrounds and Municipal Decorations. Printed—6 pages.
10. Drainage and Sewers. Not printed—5 pages.
11. Law for a County Plan Commission. Not printed—3 pages.

SOME GOOD BOOKS ON CITY PLANNING*

Town Planning in Practice—By Raymond Unwin.

Town Planning—By H. Inigo Triggs.

Improvement of Towns and Cities—By Charles Mulford Robinson.

The Width and Arrangement of Streets—By Charles Mulford Robinson.

Modern Civic Art—By Charles Mulford Robinson.

Civic Art—By Thomas H. Mawson.

City Planning: A Comprehensive Analysis—By J. S. Pray and Theodora Kimball.

City Planning: An Introductory Address—By Frederick Law Olmstead.

An Introduction to City Planning—By Benjamin C. Marsh.

Carrying Out the City Plan—By Flavel Shurtleff.

City Planning—By John Nolen.

Proceedings National Conference on City Planning.

SOME GOOD CITY PLANNING MAGAZINES*

Garden Cities and Town Planning.

Town Planning Review.

Der Städtebau.

Landscape Architecture.

The American City.

The City Plan.

*Obtainable at the Newark Free Public Library.

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